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CONTENTS

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT.

SCHORSTEIN LECTURE on Chronic Gastritis: Its Relation to Achylia and Ulcer. By Prof. KNUD FABER, M.D., LL.D.—(*Illustrated*) 901

CLINICAL LECTURE on the Treatment of Cancer of the Tongue. By DUNCAN C. L. FITZWILLIAMS, C.M.G., M.D., F.R.C.S. 907

ORIGINAL ARTICLES.

Determination of Compatibility in Bloods. By S. C. DYKE, D.M., M.R.C.P. 910

Intermittent Claudication and its Treatment by Diathermy. By A. WILSON GILL, M.D., and L. NEWELL MOSS, M.R.C.S., D.M.R.E. 912

An Outbreak of Sporotrichosis among South African Native Miners. By ADRIANUS PIJPER, M.D., and B. DAVIDINE PULLINGER, M.B., B.S.—(*Illustrated*) 914

CLINICAL AND LABORATORY NOTES.

A Case of Diabetes with Renal Glycosuria. By C. VOIGT, M.D., D.T.M.—(*Illustrated*) 916

A Case of Hirschsprung's Disease in Old Age. By S. HAROLD COOKSON, M.D.—(*Illustrated*) 917

MEDICAL SOCIETIES.

Medical Society of London: Duodenal Tube and its Practical Value 918

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London Clinical Society: Exhibition of Cases and Specimens 920

James Mackenzie Institute 922

REVIEWS AND NOTICES OF BOOKS.

Recent Advances in Ophthalmology. By W. Stewart Duke-Elder, M.D., F.R.C.S. 922

Klinische Symptomatologie Innerer Krankheiten. By Prof. Dr. Norbert Ortner 923

The Ear, Nose, and Throat in General Practice. By D. A. Crow, M.B., Ch.B. 923

Diseases of the Intestines. By A. P. Cawadias, M.D. 923

Biologie und Pathologie des Weibes. Edited by Josef Halban and Ludwig Seitz 923

Teeth and Health. By J. Sim Wallace, M.D., L.D.S. 923

Diagnosis of Pancreatic Disease. By Robert Coope, M.D. 924

Archives of Neurology and Psychiatry 924

Journal of Industrial Hygiene 924

LEADING ARTICLES.

CHRONIC GASTRITIS 925

THE HEREDITY OF CANCER 925

THE PANEL DOCTOR AND THE MINISTRY 926

ANNOTATIONS.

Hygiene for Seamen..... 927

Jean Nicolas Corvisart.... 927

Relative Values in Public Health Work 928

Dispensary Treatment of Tuberculosis by Artificial Light 928

The Longevity of Cricketers 929

Shell-fish Sanitation 929

Anorexia and Malnutrition in Children 929

Sane Enough for Sentence 930

Colour Vision 930

Hospitals and Motor Accidents 930

Clinics for Industrial Rheumatism 931

The Harveian Ceremonies 931

MODERN TECHNIQUE IN TREATMENT.

CCXLVII.—The Treatment of Perforating Injuries of the Eye. By IDA C. MANN, M.B., F.R.C.S... 932

THE SERVICES.

Royal Naval Medical Service.—Royal Army Medical Corps.—Royal Air Force.—Indian Medical Services 931

SPECIAL ARTICLES.

The Panel Conference: Proposed Modifications in Disciplinary Procedure.—Powers of Insurance Committees.—New Joint Advisory Committee.—The Chemists' New Agreement with the Ministry. 933

Medical Service in the Mercantile Marine..... 936

Medicine and the Law: Coroner and Jury: Inquisition Quashed for Irregularity.—Cost of X Ray Photograph: Gap in Insurance System.... 937

The New Biochemistry Buildings at Oxford.—(*Illustrated*) 939

Ireland: The Dentists Bill. Workmen's Compensation 940

Bucharest: The Treatment of Epididymitis 940

PUBLIC HEALTH SERVICES.

Liverpool Port Sanitary Authority: Annual Report 941

Infectious Disease in England and Wales 942

CORRESPONDENCE

Place-in-Family and Disease (Dr. A. Wohlgemuth, Dr. H. L. Cronk, and Dr. A. R. McClure).—(*Illustrated*) 942

Adrian Stokes Memorial Fund (Mr. Seton Pringle and Dr. J. W. Bigger) .. 943

Bilateral Artificial Pneumothorax (Dr. Parry Morgan) 943

The Birth Control Investigation Committee (Sir Humphry Rolleston) ... 944

Payment to Hospitals for Motor Accidents (Dr. E. Rowland Fothergill) ... 944

"Hives" (Mr. J. Johnston Abraham) 944

The Case of George Jordan (Mr. H. Wansey Bayly).. 944

The Report on Scarlet Fever (Dr. Allan C. Parsons) .. 944

Misleading Qualifications.. 945

OBITUARY.

The late Maj-Gen. Sir William Macpherson.... 945

John Rudd Leeson, M.D., J.P. 945

MEDICAL NEWS.

University of Dublin 946

University of Edinburgh .. 946

Roy. Coll. Phys. Edin. 946

Bristol Gen. Hosp. Nurses' Home 946

Society of Apothecaries ... 946

Paying Patients in Hospitals 909

New Poor-law Hospital at Stoke-on-Trent 915

Birmingham Hospitals Contributory Scheme 933

Thirty Years of King Edward's Fund..... 938

Leicester Royal Infirmary. 941

Newcastle Infirmary Enlargement 941

W. Lond. Hosp. Post-Grad. Coll. 946

Hunterian Society 946

Royal Sanitary Institute.. 946

Royal Society of Arts 946

Nat. Assoc. for Prev. of Infant Mortality 946

Fellowship of Med. and Post-Grad. Med. Assoc. . 946

National Memorial to Queen Alexandra 947

Hellingley Mental Hospital 947

Donations and Bequests .. 947

Order of St. John 947

University of Cambridge.. 947

University of Birmingham. 947

Med. and Vet. Congress in Morocco 947

Lond. School of Hyg. and Trop. Med. 947

British Orthopædic Assoc. . 947

Woolwich War Memorial Hosp. 947

Univ. Lond. Animal Welfare Soc. 947

Scarcity of Dentists 947

Lond. Clinic for Artificial Sunlight Treatment 947

Chelsea Clinical Society ... 947

London Hospital Dinner .. 948

NOTES, COMMENTS, AND ABSTRACTS.

Cricket and its Relation to the Duration of Life. By A. BRADFORD HILL, D.Sc. 949

Homicidal Impulse in Verse 950

Frauds on Nursing Homes. 950

A Good Inhalant..... 950

Toxic Rubber 950

Rifle Shooting as a Pastime 950

Medical Diary 948

Appointments.—Vacancies 948

Births, Marriages, Deaths . 948

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PROFESSOR OF CLINICAL MEDICINE AT THE UNIVERSITY OF COPENHAGEN.

FEW conceptions of disease have suffered such vicissitudes as that of gastritis. Broussais brought it to the front 100 years ago as the alleged cause of nearly every pathological phenomenon, and Andral and Louis considered it extremely common. The general error was, however, to take the autopsy findings of congestion, discoloration, and softening as signs of inflammation. That these changes really were the simple results of digestion and putrefaction had been already demonstrated in 1838 by Carswell, of University College, London. Yet the authority of Rokitansky was so great that a macroscopic diagnosis was thought quite enough, and "catarrhal inflammation" of the stomach—*Magenkatarrh*—was a favourite diagnosis with clinicians in the middle of last century. As early as 1829, Barras, in Paris, had differentiated nervous gastralgia and dyspepsia from gastritis; and the conception of purely functional disturbance in most patients gained more and more adherents in France. Confusion and uncertainty reigned everywhere. While microscopy formed a basis for the study of the lesions of other organs, such as the kidneys and liver, it failed with the stomach, because the rapidly developing post-mortem changes precluded a minute microscopic examination of the mucosa. For this reason the excellent work of Handfield Jones and Wilson Fox, in the middle of the century, was disregarded.

When physiological examination of the stomach by means of the stomach-tube and test-meals was introduced—on the initiative of Kussmaul and Leube—much important information was gained but was little understood. The two outstanding disturbances of secretion, hyperchlorhydria and anacidity, were demonstrated and erroneously elevated to the status of diseases; they ought really to have been regarded in the same way as the subjective symptoms, [the cause of which had to be investigated in each individual case]. When no secretory disturbance was found, the diagnosis of nervous dyspepsia was made; and this term was gradually extended to include the hyperchlorhydria and the anacidity, where no definite ulcer or cancer could be made out. Indeed, hyperchlorhydria was considered more a cause than an effect of ulcer. Gastritis and catarrh of the stomach were less and less discussed and diagnosed, because mucus was rarely demonstrated in the stomach contents, and mucus was considered the criterion of catarrhal inflammation.

Opinion changed when it became possible to preserve the stomach by injecting fixation fluids immediately after death. In France Hayem (circ. 1890) injected a solution of potassium bichromate into the stomach, and described in detail the minute anatomical changes. To him gastritis was a very frequent and predominant lesion in gastric pathology; but he was not able, even in France, to dispel the established opinion that functional disturbances were the most frequent. In 1900 Faber and Bloch introduced the method of injecting 10 per cent. formalin into the abdomen immediately after death; in this way they obtained an excellent fixation of the stomach mucosa. It was soon clear that inflammatory changes were frequent and important, and at the Northern Congress for Internal Medicine (1904) I endeavoured to restore chronic gastritis to its former eminence, especially as the cause of achylia. Lately we have gained additional information on this subject by examining specimens from resections of the stomach. Konjetzny, and his pupils in particular, have enlarged our knowledge and established the importance of pyloric gastritis.

For these reasons I consider the present time suitable to outline the main points of our present position.

It is well to emphasise at once that by the term "gastritis" we now mean something different from the "catarrhal inflammation" of earlier times. Certainly the stomach has a superficial mucus-secreting epithelial layer; but, apart from this, its mucous membrane consists of a compact layer of glands with specific secretion. Hence an inflammation of the gastric mucosa would be better compared with an inflammation of some other large glandular organ—e.g., the kidney or liver. Samuel Fenwick has already drawn such a parallel between gastritis, nephritis, and hepatitis. Anatomically, however, the stomach differs from these organs in that its glandular layer is extended over a large surface and consequently may be injured in two ways: (1) via the blood (toxic and hæmatogenous agents), as can the kidneys and liver; and (2) directly, by the effect of injurious agents on the mucous membrane. The pathological phenomena caused by the gastritis are likewise of two kinds. They are partly symptoms of insufficiency—i.e., impairment of the secretory faculty from diffuse lesions of the glandular parenchyma, and partly surface lesions, erosions, and ulcerations. This applies particularly to that form of gastritis so frequently localised in the pyloric region.

The matter may conveniently be discussed in two sections, corresponding to these two main forms of gastritis.

I. PATHOGENESIS OF ACHYLIA.

The stomach-tube showed that complete anacidity is quite frequent; it was at first thought to be due to a complete atrophy of the stomach mucosa and its glands, an anadenia to which great importance was attached.

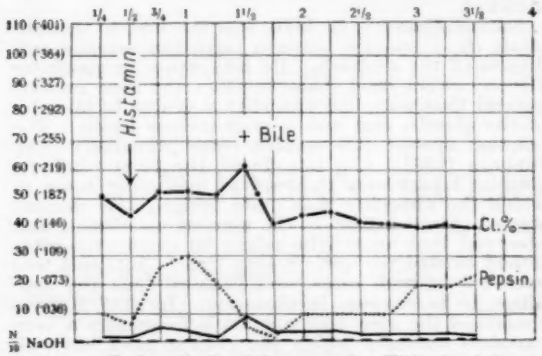
Samuel Fenwick, in 1870, was the first to demonstrate the connexion between pernicious anæmia and disease of the stomach. He laid stress on glandular atrophy as the chief characteristic; the view became general that complete anacidity was due to atrophy of the glands, and was a very serious lesion. The reaction against this opinion came principally from Einhorn (1892), who introduced the term "achylia gastrica" expressly to describe the many cases in which the anacidity was quite benign. He demonstrated glands extant in the mucous membrane, and observed that an achylia might be cured even after it had existed for quite a long time. Anadenia was excluded in such cases, and Einhorn took the condition to be nervous in character. In 1897 Martius confirmed the view that achylia is frequently a very harmless anomaly which the patient may have all his life without any pronounced symptoms. He called it achylia simplex and regarded it as a congenital constitutional ailment; he still has many followers. In opposition to this view, I have asserted, since 1904, that achylia is a disease, depending on exogenous factors and developing from a gastritis; that it has a certain tendency towards atrophy but that the anacidity begins at such an early stage that atrophy is out of the question, and inflammatory changes only are found, with the glands more or less preserved; also that it has a dual ætiology, partly toxic-hæmatogenous and partly direct injury.

Two principal considerations led Einhorn and Martius to formulate the clinical picture of nervous achylia gastrica, or the constitutional achylia simplex. One was their belief that they had found a complete cessation of gastric secretion, acid as well as peptic. The other was their discovery of this complete cessation even when the glands were anatomically preserved.

Further investigation, however, has shown that the first of these arguments does not hold good. On the contrary, even in protracted and total anacidity the secretion of pepsin hardly ever ceases altogether. The absence of pepsin, so often recorded, is due to filtration of the stomach contents before examination. The pepsin is adsorbed to the food particles and, if it is present in slight amount only, it is kept back by the filter together with the food remnants. Furthermore, an admixture of duodenal contents with the gastric juice will destroy the peptic action. In our clinic (A. Norgaard) exact analyses have always proved the presence of pepsin, although in very varying quantity, from normal to a mere trace. If under "achylia" we include cases showing no free acid and a low total acidity after Ewald's test, they can be grouped according to the degree of secretory disturbance. This has been particularly obvious since the introduction of fractional analysis, which shows that many cases have faint and delayed acid secretion, although by Ewald's test-meal they would be diagnosed as achylia. The frequency of this finding depends largely on the test-meal given. With oatmeal gruel, as at Guy's Hospital, or alcohol, as in Germany, the delayed faint secretion is seen less often than with crushed cracker. In the injection of histamine we have a new diagnostic method, which gives rise to as marked a secretion as the cracker test-meal and a more intense one than the other two meals. "False achylia," therefore, is more frequently found by this method than by using oatmeal gruel or alcohol.

The various forms of achylia are further differentiated by estimating the pepsin secretion. In some cases it remains almost unchanged, in spite of a total anacidity; in other cases it is lowered considerably; but, as mentioned, it is hardly ever completely interrupted, even in an old achylia with pernicious anæmia (Figs. 1 and 2). The total chloride elimination, after histamine injections or the alcohol test, varies similarly. Normally the amount increases

FIG. 1.



Test-meal. Pernicious anæmia. Histamine 0·5 mg.

pari passu with the hydrochloric acid secretion; but it may remain almost normal even when this is lacking if the pepsin secretion is abundant. The chloride elimination seems to follow the pepsin secretion, when no hydrochloric acid is secreted.

We realise, then, that the secretory disturbance called achylia may be divided—especially by the histamine test—into a series of types according to the degree of secretory disturbance:—

1. False achylia in which—on fractional analysis—we find a scant and tardy secretion of hydrochloric acid.

2. True total anacidity, but with preserved pepsin secretion and chloride elimination.

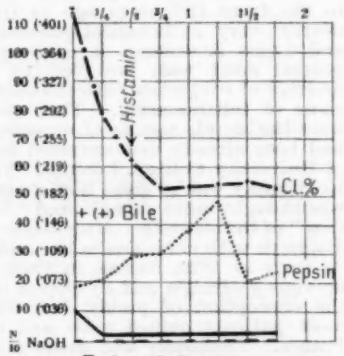
3. True anacidity with more or less impairment of the pepsin and chloride production. (Constant complete cessation of all secretion was never observed by us when the test for pepsin was carried out on the unfiltered fluid.)

Such differences in degree of functional disturbance do not fit in well with the conception of a total achylia from defective innervation, or from a constitutional congenital deficiency of secretion. They correspond much better with the picture of an organic lesion at different stages. In those cases of temporary nervous cessation of secretion which are sometimes shown by Ewald's test, it seems to be the rule that a histamine injection and subsequent fractional withdrawal give normal curves of acid secretion.

Anatomical Investigation.

Similar results are shown by anatomical examination of the stomachs of patients with achylia. By the fixation method mentioned we have been able to study these anatomical changes in well-fixed specimens. We find that a complete atrophy of the mucous membrane occurs exceptionally in the most advanced cases as an end-result of the gastritis. Usually its anatomical development proceeds slowly; and there may be a complete anacidity for a long time, though the glands of the mucous membrane are still intact and apparently capable of restoration to function if the health of the mucosa improves. We find all stages of transition, from a diffuse inflammation with no marked glandular lesion to complete atrophy.

FIG. 2.



Test-meal. Pernicious anæmia. Histamine 0·8 mg.

In the normal stomach the glands lie close to each other with no round-cell infiltration in between them (Fig. 3). In gastritis there is a more or less pronounced infiltration of the upper layers beneath the mucous epithelium and also between the glands, yet the glands may remain anatomically well preserved for a long time. Fig. 4 shows a commencing gastritis in the stomach of an 18 months' child, who after a year's good health had an attack of acute enteritis with achylia. The anacidity was demonstrated repeatedly for six months, after which the child died from another cause. After formalin injection the mucous membrane was found well preserved, and the entire glandular layer looked quite natural; but a slight diffuse infiltration with round cells was seen everywhere—a mild pangastritis. Fig. 5 shows a rather fresh gastritis with achylia in a young girl who had symptoms for about six months. The glands are here well preserved.

As the inflammation progresses, the glands begin to show signs of injury (Figs. 6 and 7). They become less numerous and appear separated from each other by inflammatory products; they then atrophy until they become mere vestiges, finally disappearing altogether (Fig. 8). The mucous membrane then consists of granulation tissue covered by the gastric surface epithelium, a complete "anadenia." Sometimes other changes are seen. The follicle-like masses of round cells may develop into typical lymphoid follicles, resulting in a "follicular gastritis." In other cases cysts form in the degenerating glands; occasionally this may be the predominant feature. Not uncommonly the surface epithelium of the stomach is converted into intestinal epithelium, characterised in particular by goblet cells with mucus, such as are never found in the normal stomach. Occasionally there may even be typical glands of Lieberkühn with Paneth cells.

Thus there is gradual transition from the slightly injured stomach to the stomach showing marked

anatomical changes with destruction of the entire secretory apparatus. The stage of complete atrophy is reached only when the gastritis has persisted for a long time, as in elderly or middle-aged individuals who have probably suffered from achylia for a good many years.

That the glands themselves may at times be anatomically intact, although their secretion has ceased, is illustrated in Fig. 9. The patient had had symptoms of cancer for six months, and had a complete achylia. In a piece of mucous membrane, removed at operation, the glands were so well preserved that it was possible to demonstrate secretory channels, Altmann's granules, &c.

FIG. 3.

Normal mucous membrane of the stomach. From a child with meningitis.

FIG. 4.

Achylia in a child 1¼ years old. Commencing gastritis.

FIG. 5.

Gastritis with achylia in a girl aged 19.

Ætiology of Achylia.

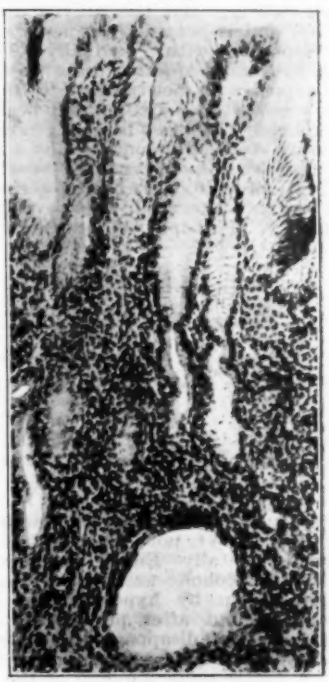
Gastritis nowadays has been generally accepted as the cause of a certain number of cases of achylia; but many authorities still hold that the so-called "constitutional achylia" is fairly common. Two arguments are always cited in favour of this view: (1) An achylia of no definite ætiological importance is frequently met with in patients of all ages who give no history of alcohol or other strongly irritating food. (2) Achylia may exist for a long time without any stomach symptoms.

The dual ætiology of gastritis must be remembered in considering the former of these. Direct irritation was formerly considered the sole cause of gastritis, and the hæmatogenous factor was overlooked. The hæmatogenous factor can best be demonstrated in children, in whom anacidity is quite common. Some exogenous cause is nearly always evident — e.g., parenteral febrile

FIG. 6.

Gastritis with achylia in a man 40 years old.

FIG. 7.



Chronic alcoholic gastritis with achylia in a man aged 51. Commencing atrophy of the glands, and some cysts.

diseases and intestinal lesions, especially infectious enteritis. In Copenhagen, especially at Bloch's pediatric clinic, it was found that an achylia very frequently developed during and after acute infectious diseases such as influenza, tonsillitis, pneumonia, bronchitis, and especially after infectious enteritis. In several cases a normal secretion had been demonstrated before the disease, and a lowered secretion for a long time after the disease. Out of 64 infants with intestinal lesions Bloch found a lowered secretion in about half (33); in 15 a complete anacidity persisted for weeks or up to 11 months. At autopsy on children dead from diphtheria and measles Jerusalem found anatomical signs of acute gastritis; and by intravenous injection of diphtheria toxin Einar Thomsen, in Copenhagen, has been able to produce a violent acute gastritis with complete achylia. Thus hæmatogenous toxic gastritis with anacidity is frequent in children. It is usually transient, but is occasionally very protracted, perhaps persisting for life. The hypothesis of a constitutional achylia postulates a certain number of cases of achylia in perfectly healthy infants; 127 infants examined all showed acid secretion. In adults, in the same manner, an achylia develops and sometimes persists after acute infections of the intestines, such as dysentery, typhoid, and paratyphoid fevers. Achylia is very frequent in pulmonary tuberculosis, occurring, as is well known, in 33 per cent. of the cases. Finally, a diminution of secretion, amounting at times to achylia, is seen in the toxæmias of pregnancy, especially eclampsia.

These ætiological factors explain the otherwise mysterious origin of various forms of achylia. The cause is often quite remote; it may be traced to childhood, or may remain unrecognised. The absence of conspicuous causative factors is no argument in favour of achylia being a constitutional congenital lesion.

In contrast to the hæmatogenous toxic ætiology of gastritis is the well-known direct irritation of the stomach mucosa by poorly prepared food, alcohol, certain drugs, &c. Alcoholic gastritis is the typical example. Vogelius found achylia in 50–60 per cent. of cases with advanced chronic alcoholism. But the achylia usually develops quite late, and is preceded by periods of marked stomach symptoms with gradually decreasing secretion. Achylia may appear during these exacerbations, but disappears on diet treatment. If the abuse of alcohol is persisted in, achylia finally becomes constant. It is probable that the hæmatogenous form attacks the entire stomach at once; it is a pangastritis, and for this reason soon produces anacidity. The gastritis from direct food irritation seems to have a longer stage of preserved, and eventually of increased, acidity. Perhaps it is localised at first in the pyloric region and later expands gradually over the entire corpus; and not till then does secretion cease. Experimentally Einar Thomsen has produced a typical alcoholic gastritis in dogs. The lesion was first shown by hypersecretion and increased acid values; but after protracted ingestion of alcohol the secretion disappeared and the mucous membrane showed a diffuse extreme gastritis.

TABLE I.

Age.	Achylia.	True achylia.	False achylia.
0–20	16	7	9
20–29	34	28	6
30–39	71	51	20
40–49	110	81	29
50–59	116	95	21
60–69	48	40	8
70—	5	4	1
Total ..	400	306	94

A better understanding of the ætiology of achylia is gained by considering its occurrence at the different periods of life. It is quite frequent in children; but in them the secretion usually, if not always, seems to return. In adults its frequency increases rapidly with advancing age; in old people it is so frequent that Dedichen, in Oslo, found it in 66 per cent. of apparently healthy people of 67–92 years. Meulengracht, in Copenhagen, found it in 75 per cent. of individuals past 70. In both instances the study was made on inmates of Old Folks' Homes, who presumably had taken poor care of their teeth and had probably often taken coarse food and alcohol. The age-grouping of 400 cases of achylia from our medical clinic was as shown in Table I.

The greatest number occurs in the decade 50–60, and this holds good also, when all cases of false achylia are separated out, including those whose total acidity with phenolphthalein—after the ordinary Ewald's test-meal—was 20 or more. The maximum of false achylia occurs at an earlier date, in the decade 40–50.

A clearer understanding is gained by comparing the age-grouping of our 306 cases of achylia with the age-grouping of 1000 patients admitted consecutively to the hospital. (Table II.)

TABLE II.

Age.	Patients admitted.	Achylia.	Cases of achylia in proportion to age.
0–20	102	7	6·9 per cent.
20–29	224	28	12·5 ,,
30–39	221	51	23·0 ,,
40–49	190	81	42·6 ,,
50–59	182	95	52·0 ,,
60–69	78	40	51·0 ,,
70—	3	4	133·0 ,,
Total	1000	306	—

The markedly increased frequency of achylia in the aged does not support the hypothesis of a congenital constitutional cause, but is consistent with the anatomical pictures. Throughout life the stomach is exposed to injurious agents, either directly, or indirectly via the blood. This aggravates an existing gastritis, which finally extends over the entire stomach and involves such great changes of the mucous membrane that achylia is established. The older the individual, the more rarely achylia is a temporary phenomenon, and the more frequently do the anatomical changes terminate in complete atrophy. Partial false achylia is also relatively more frequent in younger patients.

Symptoms of Achylia.

The other argument in favour of a constitutional achylia is the relative frequency with which it exists without symptoms. The symptoms of patients with achylia are of two kinds. In one group they are partly very serious, and seem to be directly related to the acid insufficiency. They are indirect, inasmuch as they apparently originate from the changed conditions within the intestinal tract, when gastric secretion and subsequent peptic digestion and food disinfection come to an end. As is well known, these symptoms are frequent diarrhœa, anæmia, ending as pernicious anæmia, combined toxic sclerosis of the cord. Frequently the grave sequelæ of achylia form the terminal phase of gastritis, in the same way that uræmia forms the end-result of a chronic nephritis which otherwise, perhaps, gave rise to very few symptoms. These, however, are not the symptoms whose absence is used as an argument for constitutional achylia.

The symptoms missing in some patients with achylia are the proper dyspeptic symptoms, as we know them, for instance, in alcoholic gastritis. In this condition, however, it is well known that pronounced subjective symptoms can disappear with the discontinuance of alcohol, although a solidly established achylia will persist for life, without giving rise to any symptoms whatever. This is even more common in hæmatogenous achylia. The real dyspeptic phenomena—cardialgia, vomiting, eructations, &c., and increased mucus produc-

tion—seem to depend more on the inflammation itself than on the lack of secretion. When the gastritis is at rest, there may be an entire lack of symptoms, even though achylia persists. Gastric digestion is replaced by pancreatic digestion, but all the anatomical signs of diffuse gastritis are still present. An achylia acquired in early life can be present for many years without giving symptoms. This is most often seen in hæmatogenous gastritis.

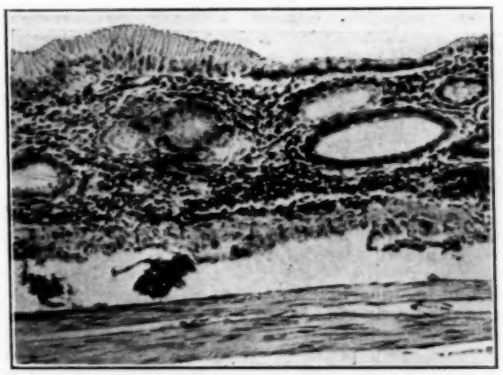
Neither deficient ætiology nor lack of symptoms warrant us in assuming the existence of a congenital constitutional achylia. All the cases are explained most readily and naturally by taking exogenous gastritis as the cause. This does not exclude the possibility that some individuals are more disposed to the disease than others, but as yet there is no material to warrant the conclusion that it is hereditary or familial as, for instance, polydactylism, Huntingdon's chorea, and the like. It is only natural that such a common disease as achylia should be found in several members of the same family, but this is no proof of heredity. At most it is a sign of increased susceptibility.

II. Acid Gastritis, Pylorus Gastritis.

Since chronic achylia is usually due to gastritis, it is clear that the great significance once attached to this lesion was fully justified. Indeed, the clinical importance of the lesion extends far beyond the achylia.

Increased secretion, hyperchlorhydria, has fared similarly to achylia. At first various authors, especially Korczynski and Jaworski, claimed that an acid gastritis was the cause of the hypersecretion; and Hayem described a special parenchymatous acid gastritis, but its anatomical characteristics could not be upheld. Later the doctrine of hyperchlorhydria as an independent functional, essentially nervous, ailment became the predominant view for a long time. Then it was noticed how often a painful hyperchlorhydria and Reichmann's symptom-complex coexisted with ulcer of the stomach and

FIG. 8.

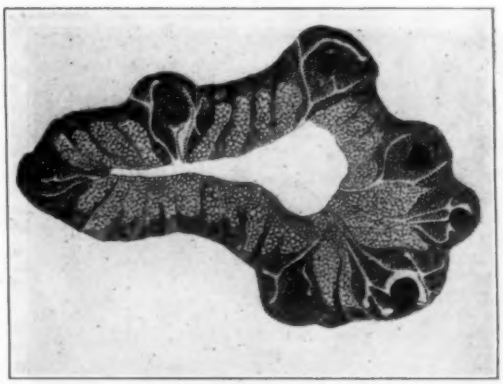


Complete atrophy of the mucous membrane of the stomach. No secreting glands. From a man, 42 years old, who had had gastric symptoms for ten years.

duodenum, and they were taken as caused by the ulcers. That gastritis might be the cause of hyperchlorhydria was less and less thought of.

At the outset it seems probable that a gastritis may exist with the acid secretion intact or increased. We have already mentioned that in many patients the stage of gastritis with complete achylia must have been preceded by a stage, possibly of long duration, in which the acid secretion continued. In alcoholic gastritis a protracted stage of intact or increased acid secretion may often be demonstrated clinically as well as experimentally, and something similar may be presumed to occur in other irritation-gastrites. It is undecided, however, how often a hyperchlorhydria can be referred to a gastritis. The reason for an intact secretion in gastritis may be twofold: the lesion of the mucous membrane may be so mild that no insufficiency ensues, or, more commonly, only a part of the mucous membrane has been attacked. The pyloric region in particular is very often the site of a marked gastritis, while the mucous membrane of the fundus or corpus is but slightly attacked, if at all, and the gastritis may be limited in this way for years, even decades. It is principally

FIG. 9.



Gastric gland, with well-preserved acid cells, in a case of cancer of the stomach which had given symptoms for half a year. Complete anacidity. (Altmann's stain. Einar Thomsen del.)

by the systematic examination of the pyloric part of the stomach after surgical resection that attention has been called to this pyloric gastritis and to its great frequency and great clinical importance. It is only natural that irritation from food—mechanical, toxic, or infectious—should assert itself most effectively in the pyloric region. Here the stomach contents are pressed most forcibly against the wall in a purely mechanical way, while the stomach is working in the effort to pump its contents through the pyloric channel.

Such a localised pyloric gastritis contrasts with the pangastritis of hæmatogenous origin ætiologically as well as symptomatically and anatomically, and deserves most careful attention. It is a juxtapyloric lesion, limited for a long time to the antrum pylori of the stomach and the adjacent part of the duodenum; and its symptoms may be explained by its localisation just as they are conditioned largely by the function of the pylorus.

There is a symptom complex which the Frenchmen Soupault and Mathieu named *syndrome pylorique*. Later on Moynihan gave its principal symptom the name of "hunger pains," which are characteristic of juxtapyloric ulceration, and which he took to be chiefly a symptom of duodenal ulcer. The principal feature of the pyloric syndrome is the late pains or "hunger pains" which set in when the stomach is nearly emptied and persist till more food is taken. Next in importance is increased acidity and, especially, the so-called digestive hypersecretion, which manifests itself after a test-meal in the copious contents of the stomach and, finally, delayed emptying, more or less a gastric stasis. These symptoms are now regarded as conclusive for the diagnosis of chronic ulcer, particularly when larger or smaller hæmorrhages supervene.

Lately, however, it has become more and more evident that our view must undergo some modification. Since Konjetzny, different clinics have published a steadily increasing number of observations showing that these characteristic symptoms are found not only in juxtapyloric ulcer but also in juxtapyloric

gastritis, especially when the gastritis is complicated by small erosions. The explanation is obvious, for the symptoms must be interpreted as signs of lesions in this particular region. Carlsson demonstrated that periodical contractions take place in the empty stomach. It is these contractions which are so painful to patients with pyloric ulcer or pyloric gastritis.

Anatomical Features of Pyloric Gastritis.

The available material comes largely from stomach resections for supposed juxtapyloric ulcer. The symptoms of pyloric gastritis are almost identical

FIG. 10.

Pyloric part of the stomach, showing gastritis and small erosions. The arrows point to the three erosions.

with those of pyloric ulcer, and a gastro-enterostomy will relieve them in both cases. In the absence of real ulcer, macroscopic examinations of such specimens of the pyloric region frequently shows no change, or at most an accentuation of the mammillated condition of the surface. Many cases, however, show scattered tiny ulcerations or erosions of the mucous membrane (Fig. 10). Frequently these are made more conspicuous by a surrounding elevated fold of mucosa. Sometimes they are very numerous and give rise to the characteristic picture of an ulcerative gastritis. Microscopically the mucosa shows the usual gastric changes: intense infiltration with round cells, numerous large accumulations of cells, and greater or lesser degeneration of the glands, and eventually cystic dilatation. The small erosions or acute ulcers of mucosa are particularly characteristic. The macroscopic ones involve most of the mucosa and are surrounded by densely infiltrated tissue. Some microscopic erosions of the mucous membrane are also found (Fig. 11). These inflammatory features are seen in the pyloric part of the duodenum as well as in the stomach. When the specimens show chronic ulcers, these are not as simple as is often thought. In fresh material the ulcers are more intensely inflamed, and the inflammatory phenomena are not limited to the immediate surroundings but extend over the entire mucosa of the part. Thus the chronic ulcer is surrounded by a marked pyloric gastritis, and sometimes small erosions are seen besides. The conclusion is unavoidable that one or several small erosions in ulcerative gastritis are gradually converted into the typical chronic ulcer, presumably by the joint action of the corroding gastric juice and the mechanical effect of the food passing through the pyloric channel.

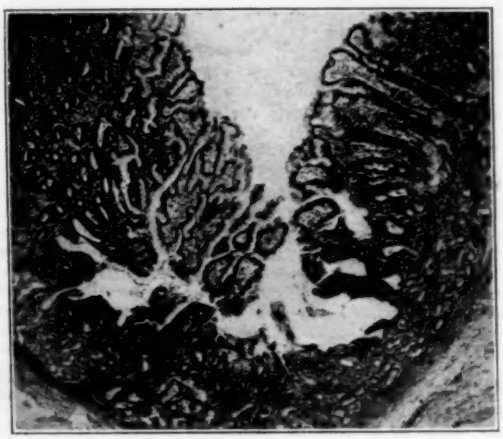
By way of clinical illustration of this lesion I mention two cases, each of which is very enlightening.

Case 1 is that of a young man, aged 25, who for ten years had had pronounced gastric symptoms and had four times been subjected to severe dietetic treatment for ulcer, each time with good but transitory result. The symptoms were hunger pains, appearing about one and a half hours after meals and lasting till the next meal, which relieved them; frequent vomiting; and a dozen small hæmatemeses, rarely more than 1-2 tablespoonfuls. At the hospital frequent occult bleedings in fæces, once melæna. Hyperchlorhydria was demonstrated repeatedly; on Ewald's test-meal, free acid 93, total acidity 106. Fractional withdrawal likewise showed high figures, rapid emptying of food, protracted marked secretion of acid, which still persisted four hours after, and bile influx after two and a half hours. X ray showed a doubtful deformity of bulbus duodeni. The diagnosis seemed clear, and Prof. Schaldemose did a resection of the pyloric part of the stomach and duodenum.

Examination of resected part revealed:—Macroscopical: *No chronic ulcus simplex*, but in the antrum of stomach three to four diminutive erosions, which did not penetrate the mucous membrane and were outlined by slightly elevated edges (Fig. 10). Microscopical: Extremely intense inflammation of the entire resected area and small breaks in the continuity of mucosa with strongly infiltrated surroundings (Fig. 11). In other words, *gastritis* with erosions. The disease had lasted for ten years and had very definite classical symptoms. The small erosions cannot be considered chronic; they are more transitory and changing manifestations of the inflammation. The fundamental (primary) lesion is a marked chronic gastritis, localised to the pyloric portion of the stomach.

Case 2 is that of a man, aged 35, who since his eighteenth year—that is for 17 years—has had periodic attacks of cardialgia, typical hunger pains two hours after meals and at night, relieved by eating. A hæmorrhage in 1924, both hæmatemesis and melæna, wherefore ulcer treatment at hospital. The pains were temporarily relieved but returned in periods. In 1926 confinement to bed and dietetic treatment. In January, 1927, violent pains and marked melæna, together with minor hæmatemeses. Admitted to hospital in poor condition; hæmoglobin 72 per cent. The bleedings ceased under ulcer treatment, and the symptoms disappeared save for some delayed pains after light diet. The gastric secretion had previously shown hyperacidity; now it became normal. X ray examinations roused suspicion of duodenal ulcer, as it showed a deformity of bulbus duodeni with projections of the great and lesser curvature. As the clinical examination likewise indicated a duodenal ulcer, laparotomy

FIG. 11.



One of the small erosions seen in Fig. 10.

was done; and as no definite ulcer could be made out, the pyloric part of stomach and duodenum were resected. No ulcer was found. In the duodenum there were two pockets resembling diverticula, and small scars between. Unfortunately, death from embolism took place one week later. The other part of the stomach revealed no ulcer. Microscopic examination showed diffuse inflammation of stomach as well as duodenum, but limited to the pyloric region (Fig. 12). The mucous membrane of the corpus was normal, without indication of inflammation.

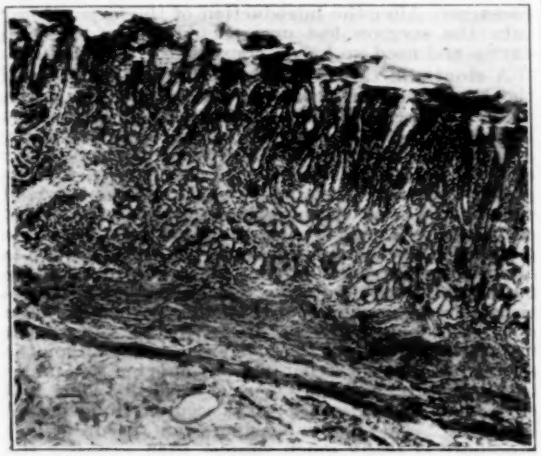
Here we have another case in which the diagnosis of chronic duodenal ulcer seemed certain, and where

the anatomical examination showed no ulcer but a very marked gastritis localised to the pyloric region. The repeated profuse hæmorrhages and the small scars show that there has been ulceration; but the ulcers must have been small and quickly healed "acute ulcers." The fundamental (primary) gastritis, on the other hand, has persisted for decades.

CONCLUSIONS.

We realise, then, that the very oldest hypothesis, advanced by Cruveilhier, is once more coming in the front; that it is in the gastritis we must seek the origin of the chronic ulcer; and that the frequent ulcerative pyloric gastritis is the cause of the juxta-pyloric ulcers. Gastritis is likely to assume that

FIG. 12.



Pyloric gastritis.

predominant position in the pathology of the stomach which has been assigned to it from time to time in the past, only to be subordinated to the theory of nervous functional disturbance and chronic simple ulcer.

The whole development of our pathological views in this field is a striking illustration of the steady and most important scientific work done in the clinic. The method has ever been that of correlating clinical symptoms with anatomical changes and physiological functional disturbances. But this progress has been possible only by long and steady study of patients. We must employ the same exactness in our investigations as do the theoretical explorers; but the bedside must ever be our principal field of research. It behoves us humbly to submit to the manifestations of nature in our patients and to seek to grasp the many features they present. In this manner only do we advance towards our goal, to understand nature and then endeavour to control her.

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Clinical Lecture
ON THE TREATMENT OF
CANCER OF THE TONGUE.

Delivered at the Post-Graduate Meeting at St. Mary's Hospital, London, on Oct. 3rd, 1927,

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CANCER of the tongue deserves our attention in the first place because of its very rapid course. There is no organ in which the disease is anything like as rapidly fatal as it is in the tongue. Butlin gives 12 months as the average time of survival of the unoperated cases. For the breast the average time of survival of the unoperated case is nearly three times that length. Then in the tongue it is the primary growth, as a rule, that brings about the death of the patient. Such cases have an intensely painful ending. One is able to forget for a time disease in a breast, a gall-bladder, or a uterus, but at no time can one be unmindful of a sore tongue. The patient must constantly breathe and swallow, and the pain therefore is always there. And, finally, there is something which recommends a study of this disease to our close attention, and that is the very poor surgical results we have obtained up to the present time. There is no site in the body in which cancer regularly appears which gives us worse results. Now our methods of treatment have advanced so far, that in future we are going to get almost as good results in the case of the tongue as we do in the case of the breast.

PRECURSORS OF CANCER.

We all recognise that leucoplakia is often a precursor of cancer. Now it does not matter what is the cause of leucoplakia, be it smoking, alcohol, or syphilis, the effect is the same. It used to be fashionable, and perhaps it still is, to say that syphilis is a precursor of cancer. It is not, but its effects on the mucous membrane, the fibrosis after gummata, and the other changes it brings about certainly predispose to the disease, it matters not what is their cause, and that is the only relation syphilis bears to cancer. If the leucoplakia is slight it can be ignored to a very great extent, all we can do is to keep an eye upon it; if, on the other hand, it is severe we can carry out one of the many excellent procedures for the removal of the affected mucous membrane.

Apart from the rarer ways in which cancer of the tongue may start, we can say that the commencement is always in a chronic ulcer, fissure, or sore of some sort, or as a wart, or as a nodule under the mucous membrane. Now we know that the sore and the wart to begin with are in almost every case innocent at first, but they may at any moment develop that peculiar growth of epithelium which determines their cancerous nature. Immediate excision of a wart will prevent cancer developing; similar treatment in any case where there is any sort of a sore on the tongue which shows the slightest sign of becoming chronic, or of not healing on the removal of any visible cause such as a sharp or septic tooth. It can be done under a local anæsthetic, and these little wounds will heal at once. It is always advisable to have the piece of tissue carefully examined by the pathologist. This seems quite a simple and obvious procedure, but it is one which is seldom carried out, and the removal of a chronic sore from the tongue is a very rare occurrence.

SPREAD.

Now once the cancer has started, spread is very rapid. The spread takes place locally and to the glands. Locally the spread is peculiar as it is not apparent. The ulcer may remain quite small, but if sections of the tongue be cut it will be found that the

spread is into the depths of the tongue, down the lymphatics which run along the muscular fibres towards the hyoid bone. Superficially the spread is so very limited ordinarily, we say that if we keep half an inch of sound tissue between the knife and the ulcer that is sufficient, but hitherto we have never laid stress upon the depth we must go, and in depth we must go as far as we can. It is the failure to realise this that is the cause of the local recurrences within the mouth.

Spread to the glands takes place at a very early period, far earlier than in the case of the breast. Why this is so, is apparent when you think of the two organs.

Cancer affects the breast at a time when the organ is past its period of activity; it is an extinct and resting organ; it lies between no muscles which could press upon it and drive out the lymph, which carry away the carcinomatous cells. Infection even of the main axillary glands is therefore comparatively late. In the tongue the condition of things is quite otherwise. There is no period of life in which the organ is past work; it is always actively used for speaking, mastication, and swallowing. It is a purely muscular organ, and each contraction pumps the cells along the lymph channels to the glands, so that their infection must be very early brought about. Not only so, but as the net work of lymphatics is so ample in the neck, the infection is often very widespread at an early date.

OPERATIVE TREATMENT.

In dealing with the treatment of cancer of the tongue these things have to be taken into consideration. The ordinarily performed operation is badly planned; inadequate to the last degree, its results are disheartening; it should be given up.

In the case of a bad leak of water the first thing to do is to turn off the water at the main and then deal with the water which has escaped. In cancer we want to remove the source from which the cancer cells are flowing; we therefore have to deal with the primary growth first; later we can deal with the glands into which the cells have escaped. I state this because lately it has become more and more the fashion to deal with the glands first and then to remove the growth at a later date. Now if you remove the glands first the lymph flows from the cancer just the same, and in the weeks which intervene between the two operations the cells of the growth are carried by devious passages to other glands on the same and on opposite sides of the neck.

The only reason why the operation is done in the wrong order is that intra-oral operations are most distressing, inflammation in a part such as the mouth which cannot be kept at rest is very painful, and the whole procedure is so trying that one is afraid that the patient will not face the second and equally necessary operation of removal of the glands. Most of this unpleasantness can, however, be done away with, as I shall show, so that even this reason no longer carries weight.

If the operation is to be done in two stages the neck should be left severely alone, and therefore ligature of the lingual artery is to be avoided; it is an obsolete procedure never needed, and should no longer be performed. The incision in the neck and the clearing away of a few glands round the carotid is not the radical clearance of the glands which modern thought demands, and merely lays down fibrous tissue which renders subsequent dissection very difficult. A radical clearance of the glands with the certainty of infection of the area from the mouth is not to be thought of.

The First Operation.

At the first operation, therefore, all that is to be done is to remove the growth, and this should be done in the following manner. I shall omit the preliminaries which it is necessary to follow, and the measures taken to reduce oral sepsis.

The patient is anæsthetised in the ordinary way. A small stab wound is then made through the crico-thyroid membrane and a laryngotomy tube inserted and the anæsthetic is subsequently given through this. The smaller the stab wound and the tighter that the tube fits the better; the pressure will prevent all bleeding. On no account should intratracheal ether be given. The danger of the operation being broncho-pneumonia, what better method can be thought of for producing it than rubbing a catheter over a septic cancerous ulcer and then passing it down into the trachea? The introduction of the tube, too, is not always so easy in a tongue which cannot be drawn freely from the mouth, and considerable bleeding from the ulcer may occur in its introduction. The tube is often inserted before the patient is deeply under, and struggling on the part of an old and often broken-down patient is not the best preliminary to a trying operation. Moreover, the pharynx cannot be plugged, and the danger of fluids passing into the trachea is increased by the tube narrowing the passages. After the introduction of the laryngotomy tube the surgeon has unrestricted use of the oral cavity and need no longer consider the anæsthetist.

A stout silk thread is placed through the front of the tongue and another can, if necessary, be placed behind the growth and used as tractors. The pharynx is then plugged with marine sponges to which a string is attached; no fluids can then pass into the pharynx and the danger of broncho-pneumonia is past. The growth, as we have already said, does not spread superficially, and half to three-quarters of an inch are considered sufficient distance to keep from the growth. The mucous membrane below the growth is divided as far back at the anterior pillar of the fauces and the stylo-glossus muscles which constitutes that pillar exposed and cut through. This having been done, the tongue can be drawn further out of the mouth. This will put the hyoglossus muscle upon the stretch. A director or flat instrument is inserted under this structure and the muscle divided. This will expose the lingual artery; it is secured, divided, and ligatured. No more bleeding can occur. This procedure is really much simpler than exposing the artery in the neck. Definite flaps of mucous membrane are then fashioned so as to leave sufficient to cover in the stump of the tongue, and the growth is removed, bearing in mind the depth to which the growth may have penetrated.

Having stayed all bleeding the flaps of mucous membrane are sewn with catgut over the raw surface, which as a rule can be covered completely. The sponges are removed from the pharynx, the patient allowed to come round sufficiently from the anæsthetic to enable him to cough—a most important point—as after the coughing reflex is established and nothing is likely to pass down the wrong way. For this reason morphia should be avoided as it dulls the coughing reflex. The laryngotomy tube can then be removed and a small dressing placed over the tiny wound. The patient lies in bed half on his face, so that saliva will flow naturally out of his mouth, and on no account will any swabbing of the interior of the mouth be allowed for fear of disturbing the stitches. For the first few days plentiful rectal salines should be given, but I do not need to go into the nursing details with you.

The recovery is most rapid; there is no raw ulcerating surface in the mouth to heal, there is little inflammation, and consequently little pain. In fact the operation has been robbed of most of its unpleasant features.

That, shortly, is the operation, and I need not elaborate it to point out that both sides of the tongue can be removed at the same time. I must emphasise, however, that the tongue should never be split in bilateral removal. You are removing it because both sides are affected; if you split it as used to be recommended, you must cut through the cancerous area and cells will escape.

The Second Operation.

Two to three weeks later the glands of the neck are attacked. During those weeks nothing is to be

feared from them; if badly infected they are blocked and no lymph is passing through, in any case the source from which the lymph flows has been removed and no fresh cells have been implanted. But for the continual growth of the cells they are as they were at the time the tongue was dealt with.

An incision is made down the whole length of the anterior edge of the sterno-mastoid muscle. From the middle of this incision a second one passes up to beneath the point of the chin. Further incisions can later be made at each end if needed.

The first incision is deepened so as to expose the external carotid artery which is secured and divided between two ligatures. This greatly simplifies the procedure. The whole of the gland bearing fascia at the side of the neck, together with the submaxillary gland and the sterno-mastoid muscle, is removed. If the glands are badly infected they will be adherent to the internal jugular vein which must be removed too. In this case the dissection is best begun in dividing the sterno-mastoid above and working downwards. If the glands are not adherent, the vein can be left, and it does not matter at which end one begins. In deep dissections of the neck high up much more room may be obtained if the angle of the jaw is sawn through and removed. Handling of the glands should be carefully avoided. They should not be touched, nor held, as pinching, squeezing with forceps, or dividing with the knife favour the escape of cancerous cells which would be sown on the raw surfaces and so cause recurrence. All the glands from the anterior and most of the posterior triangles can thus be removed.

I am not in favour of block dissection of both sides of the neck. It is, in my opinion, sufficient to remove those from the affected side and to watch the opposite side. The glands become infected direct from the tongue, one becomes infected and blocked, and as no further lymph flows through it no cells can be carried from it. The lymph being deflected through other glands, other glands become infected, but all directly from the original growth, not from previously infected glands. It is sufficient, therefore, to watch the opposite side and examine it systematically once a month and deal with infection if it arises.

That, shortly, is the modern method of dealing with cancer of the tongue by means of operation.

APPLICATION OF RADIUM.

Of late, however, another method of treatment has been used with great success, and that is the treatment of primary growth by radium.

The method of procedure is as follows: Novocaine is injected into the lingual nerve on both sides as it lies under the mucous membrane on the inner side of the jaw. This is a simple and satisfactory proceeding. There are very many ways of applying radium. There are the tiny glass needles containing emanations which are inserted and left in permanently. There are the fairly large doses of radium enclosed in tubes of platinum to screen them, which are left in for perhaps 24 hours; and there are the small needles of platinum containing doses of 0·2 mg. which are inserted and left in for a week or more. Of these methods the last seems to answer in much the most satisfactory manner. It is the method which has been used by Prof. Regaud in Paris for some years, and anyone who has seen his results will be convinced of its merit. The needles can be an inch or an inch and a half or two inches long. Each needle is threaded with a piece of fine wire and a piece of Japanese silkworm-gut. They should be inserted at about half inch intervals round the growth and should be pushed straight in towards the root of the tongue. When driven home the silkworm-gut is threaded on a needle and a stitch put through the mucous membrane of the tongue, tied, and cut short. Each needle is treated in the same manner. The wire threads are twisted up and threaded through a thin piece of rubber tubing which is brought out of the mouth and secured to the cheek with plaster. In this way the needles are doubly anchored and should be examined daily to see that they are not working loose. Each needle is worth some £300 to £400, so that precautions are necessary.

The needles are left in for at least a week and are then removed. A little inflammation is seen in a few days and usually small areas of necrosis appear where each needle was inserted. The ulcer shrinks and its surface becomes covered with a white slough, and soon begins to heal over. The induration and stiffness of the tongue begin to disappear, and in successful cases the whole growth may have dissolved in five to six weeks. If the dose has not been sufficient a second may be needed, but will have less effect than the first dose. Overdoses may produce a most persistent form of tissue necrosis and transform the carcinomatous ulcer into a most intractable radium sore which may be painful. Necrosis of part of the jaw sometimes takes place, and the patient should be warned that his moustache will fall off, at all events on that side; this will save him the trouble of shaving for some time.

Attempts have been made to destroy the cancerous glands of the neck by radium either inserted or applied over certain coverings to the outer side of the neck. The glands can be made to get smaller and to disappear, but in my experience only for the time being. I have had cases where large masses of glands on both sides of the neck have completely disappeared for more than a year. Probably a combination of the two methods is at the moment the ideal one. Even at Prof. Regaud's clinic block dissections are the rule.

You will expect me to mention the method of treatment by diathermy, and I will do so, but merely to warn you to avoid it if possible, except in inoperable cases where you cannot get at the growth, and probably in those cases radium is a better weapon to use. It is curious how even surgeons can be swayed by fashions and vogues. Diathermy is one of them. It came in some years ago and had a great vogue; this is quite past among those who have used it much. It is invaluable in certain cases and almost fatal in others. There is nothing mysterious in it; a cold current passes into the tissues; the instrument does not get hot, it is the tissue resistance which creates the heat, and this cooks the tissue. Great experience is needed to get the best results. The cooked tissue then rots off, and in a septic cavity such as the mouth you can imagine the state of affairs after a few days. The same thing can be produced by tying a piece of cooked steak firmly to a tooth and allowing it to rot away. It is no wonder that septic pneumonia frequently accompanies it. It is often, too, very painful, as in all gangrenous processes a line of demarcation must form between the living and the dead and the resulting inflammation is difficult to bear in a part like the mouth, which cannot be kept at rest.

RESULTS.

As to the results it is difficult to speak with certainty as these methods have not been tried very long. There is no doubt, however, that we have improved our position out of all recognition in the last few years. There is not much difference now between the results obtained by operation alone and those obtained by radium and operation. The former are still slightly the better. We can reasonably expect 25 to 30 per cent. of three-year cures at the moment, but here, as elsewhere, everything depends upon the time at which the cases are diagnosed and treated. In really early cases I think 40 to 50 per cent. of three-year cures should easily be obtained, and 25 to 30 per cent. five-year cures. This is a great advance on the previous figures.

PAYING PATIENTS IN HOSPITALS.—The Special Committee of King Edward's Hospital Fund, which is inquiring into the subject of hospital accommodation for paying patients, has just taken the evidence of Dr. S. S. Goldwater, director of the Mount Sinai Hospital in New York.—The governors of Swansea Hospital have decided not to admit or assist with advice or treatment any person who is "able to pay fully for the same."

DETERMINATION OF COMPATIBILITY IN BLOODS.*

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IN the following remarks the classification of the blood groups devised by Moss [1] is used throughout. Group I. consists of bloods wherein the red cells carry both the A and B agglutinable factors of von Dungern,[2] Group II. of those wherein the red cells carry A alone, Group III. of those carrying B alone, and Group IV. of those wherein the red cells have no agglutinable factor. The term agglutinable factor is hereafter replaced by the term "agglutinogen," now in general use in America. This term is open to obvious objections, but is less cumbersome than the alternative expression.

In the selection of donors for transfusion the first step is the identification of those individuals whose blood is compatible with that of the proposed recipient. A compatible blood may be defined as one which can be introduced into the circulation of an individual without giving rise to disturbances due to differences in the agglutinogen-agglutinin formulæ of the two bloods. There are other reasons for results unpleasant to the recipient following blood transfusion. Various diseases, such as syphilis or malaria, may be and have been inoculated with blood from an infected donor; in another category fall the immediate unpleasant or even fatal results which may follow too great or too rapid a transfusion. Still another class of reaction, and one very commonly seen, is that depending on the use of water which, though sterile, is not free from bacterial protein. Certain unpleasant reactions are ascribed to the use of sodium citrate as an anticoagulant, though my own experience would lead me to believe that the water is more often at fault than the citrate dissolved in it. However, I am only concerned here with the means of identifying those bloods which, when introduced into the circulation of another individual, will produce no ill-effects due to interaction between the agglutinogen-agglutinin complex of the two bloods.

As is well known, the transfusion of an incompatible blood is invariably followed by hæmolysis, which shows itself, if the recipient lives, by jaundice, hæmoglobinuria, and the return of the blood count within a few hours to the level at which it stood before the transfusion. Hæmolysis may be regarded as the criterion of incompatibility, and it is necessary to select donors whose bloods are so constituted as to be incapable of causing hæmolysis in the circulation of the recipient. The selection of donors, then, resolves itself into the question of how to identify those bloods which are incapable of reacting with the blood of the recipient in such a manner as to produce hæmolysis. Hæmolysis is a reaction that is comparatively rarely seen outside the body. Agglutination, however, is common. Landsteiner and Leiner [3] produced satisfying evidence that hæmolysis and agglutination are components of the same reaction; they showed that hæmolysis is always preceded by agglutination, and that in the absence of active complement the reaction will not proceed beyond this first step. Jones [4] has made new observations in this direction and confirmed the old. In tests outside the body the criterion of incompatibility between two bloods must be either hæmolysis or agglutination on bringing them together. Experience, for the most part gained during the war, has clearly shown that a blood, the serum of which is capable in vitro of agglutinating the red cells of the recipient, may be infused without harmful results. Hæmolysis with its attendant evils follows upon the injection of a blood the red cells of which are in vitro capable of being agglutinated by the serum of the recipient. This phenomenon is probably explained by the fact that on infusion the plasma of the donor's blood is so immediately and so greatly diluted by the recipient's plasma that the titre of such agglutinins as it may contain is reduced to an ineffective level. The potentialities for hæmolysis and its attendant evils are present; in actual practice it rarely, if ever, occurs. In practice, therefore, an incompatible blood may be described as one, the cells of which are capable of agglutination in vitro by the serum of the proposed recipient, and the selection of a donor resolves itself into the question of the identification of those individuals whose red cells are incapable of agglutination in vitro by the serum of the proposed recipient.

Until recently this appeared to present no difficulties. The theory of von Dungern offered a universally accepted explanation of the blood groups; anyone possessed of sera of Group II. and III. could place any given blood in any one of Moss's four groups, and the compatibility relationships between the four groups appeared to be perfectly understood. In Moss's Group IV. there was believed to exist a class of persons ordained and ordered of God to give their bloods to anyone without putting pathologists to any trouble beyond that of identifying them once and for all.

The Multiplication of Agglutinogens.

These beliefs had only just been accepted when their bases were questioned almost simultaneously by Coca and Klein [5] and by Guthrie and Huck.[6] Both these pairs of workers studied bloods the reactions of which they believed to be explainable only by postulating a further agglutinogen with its appropriate agglutinin. Guthrie and Huck called their newly found agglutinogen "C"; Coca and Klein described theirs as "X." More recently Landsteiner and Witt [6a] and Simson [7] have also described bloods which do not fit into any of Moss's groups and the constitution of which they believe can only be explained by the presence of yet another agglutinogen. Finally, Guthrie and Huck have increased the complexity of the matter still further by describing "D" and "Q" agglutinogens. Even one further agglutinogen makes the whole constitution of the blood groups highly involved; the number of possible permutations and combinations of three agglutinogens and three agglutinins is large enough.

The publication of the work of Guthrie and Huck and of Coca and Klein led various pathologists to reinvestigate von Dungern's hypothesis as to the existence of only two agglutinable factors. In this country Jones and Glynn [8] have devised a quantitative method for studying the titre of agglutinogen-agglutinin reactions, and on this basis have searchingly investigated the interactions of 40 individual bloods. They found six bloods giving anomalous reactions, but saw no reason for the postulation of further agglutinogens, other than the original A and B of von Dungern. Similar conclusions as to the sufficiency of von Dungern's original hypothesis have been reached by Mino,[9] Lattes and Cavazutti,[10] Hubener,[11] Schiff,[12] and Flagairolle,[13] and also by myself.[14] Lattes and Cavazutti summarise the causes which they believe have led various workers to postulate the existence of agglutinogens other than A and B as follows: (1) low agglutinogen-agglutinin titre; (2) pseudo-agglutination; (3) failure of complete adsorption in adsorption experiments.

My own experience leads me to believe that the first and third factors are capable of explaining most of the results which have led to the postulation of agglutinogens other than A and B. The existence of great differences in titre both of agglutinogen and agglutinin was, I believe, first pointed out by myself in 1923.[15] I have recently satisfied myself that in some bloods in which both agglutinogens were present the agglutinogen titre of one might be so low as to escape detection altogether except by adsorption methods, and that in such bloods the agglutinin homologous to the low titre agglutinogen might be present. As an example I may cite one of the six anomalous bloods recently described by myself.

* An address delivered before the summer meeting of the British Pathologists Association.

Blood No. 6.—Red cells were agglutinated by ten Group III. sera. They failed to agglutinate with the two sera of Group II., but were powerfully agglutinated by two other sera of Group II. The serum of this blood failed to agglutinate all cells of Group II. or III. with the exception of one specimen of Group III., with which it gave a trace of agglutination. Absorption of a Group IV. serum by the cells of this blood resulted in the complete removal of both agglutinins *a* and *b*, as shown by subsequent tests against cells of Groups II. and III. The red cells of this blood evidently contained both the agglutinable factors A and B, and so far as the cells were concerned it was therefore of Group I. The failure on the part of two of the Group II. sera to reveal the factor B may be accounted for by a low titre of the agglutinin *b* in these sera and a low concentration of the factor B in the cells. That these sera were deficient in the agglutinin *b* was shown by titrating them against several samples of red cells of Group III. In no instance did agglutination take place in dilutions over 1 in 10 of the serum. In spite of the Group I. constitution of its red cells the serum of this blood contained agglutinin *b*, and in respect of its serum it belonged to Group II. The fact that auto-agglutination of the red cells did not occur in this blood was presumably due, as in the further cases described, to the relatively low titre of the agglutinin and the small proportion of the corresponding agglutinable factor in the cells.

By ordinary grouping methods this blood, though actually Group I., was relegated to Group II. It is significant that it is as modifications of Group II. that most of the anomalous bloods have been described.

The implications of the observations of Jones and Glynn, Mino, Schiff, and myself may be summarised by the statement that many bloods apparently of Group II. or III. really belong to Group I. The rarity of Group I. individuals in the general population would, on this view, be apparent rather than real. This is supported by the fact, pointed out by myself and Budge,[12] that Group I. bloods are apparently much rarer than they should be on strict Mendelian grounds.

Unreliability of Grouping Tests.

It is obvious, therefore, that in the present state of knowledge no reliance can be placed upon grouping tests alone as a criterion of compatibility. If the views of Guthrie and Huck and those who think with them are correct, almost infinite numbers of groups must exist, and universal donors must be few and difficult to identify. If, on the other hand, the view be accepted that anomalies are explicable on differences of agglutinogen-agglutinin titre alone, simple agglutination by itself can no longer be regarded as a satisfactory means of assigning an individual to any group. Elaborate adsorption tests are demanded, for which there is usually no time when a donor is being selected.

Furthermore, the grouping of a blood demands the possession of known group sera of high titre, which are not easily obtained. In Group II. the difficulty is not great, but in Group III. it is a different matter. In this respect my own experience is illuminating. For several years I obtained all the Group III. serum which I required from a single donor. This serum was of exceptionally high titre, and by using it in a long series of experimental agglutinations and adsorptions I was able to satisfy myself that it was reliable. While using this serum for grouping I chose all donors on the grounds of group affinities, without recourse to direct matching. In a large number of transfusions no incompatibility trouble occurred. About two years ago this source of Group III. serum failed me; I obtained the serum from two other sources and carried on as before, selecting donors on the strength of their group alone and without matching. Before long two cases occurred in which it was obvious that incompatible donors had been used. In both there was complete hæmolysis of all the infused blood, though happily without serious effects so far as the patients were concerned. Investigation of the two Group III. sera used showed that the titre of each was far below that of my original serum of this group. The donors and recipients in both these cases were supposedly of Group IV. I have no doubt now that in both these cases the donors were actually of Group II., but that the agglutinogen titre of their red cells was so low as to result in no agglutination when brought into contact with the Group III. serum used.

Direct Matching of Blood.

In view of the difficulty of obtaining Group III. sera of known high titre, I came to the conclusion that the only safe and satisfactory way of determining compatibility is by direct matching of blood. Since adopting this measure there has been no further hæmolysis after transfusion, and such reactions as have occurred have only been of the type attributable either to too great or too speedy infusion of blood or to the use of contaminated distilled water.

The actual technique of typing used is that which I devised some years ago in investigating blood groups, and is practically the same as that adopted as a standard by the American Society of Immunologists.

A few c.cm. of blood are drawn direct from the recipient by venipuncture into a centrifuge tube. Clotting is hastened by placing it in the incubator, and the serum is spun out and then pipetted off into a sterile test-tube and kept in the ice-chest until required. When repeated transfusions are anticipated a few drops of chloroform are added; the serum will then retain its agglutinating properties for years. Blood is obtained from the proposed donors by capillary puncture in the finger or ear by a bayonet-pointed surgical needle. This blood is diluted to the extent of 1 in 100 with normal saline in an ordinary Thoma red cell pipette. This dilution represents the optimum degree for the blood of normal adults. For anæmic persons a lesser degree of dilution may be advisable, but such persons should obviously not be used for donors. Once the blood is drawn into the pipette and mixed with the saline it may stand for many hours without deterioration. Each pipette of diluted red cells is marked with a number corresponding to the entry in the laboratory day-book of the donor's name and address.

For the actual matching one plane and one hollow-ground slide are prepared and each is marked with the identification number of the blood to be tested. On the plane slide is placed one drop of the recipient's serum, and to this is added one drop of the donor's red cell emulsion. Serum and cells are thoroughly mixed with a clean platinum loop. With the loop a drop of the serum cell mixture is transferred to a cover slip and a hanging-drop preparation made in the usual manner. Both the plane and the hollow-ground slide preparations are allowed to stand for ten minutes at room temperature with occasional shaking before a reading is made.

Usually if agglutination is to take place this can be detected within a few minutes on the plane slide by the naked eye. Minor degrees of agglutination are, however, easily missed and the slides are always examined microscopically. No decision as to compatibility is given until the preparation has stood for one half hour at room temperature. The hanging-drop preparations should always be put up because in some cases, particularly when the temperature of the laboratory is high, evaporation may have proceeded to such a degree at the end of half an hour as to render the readings of the plane slide preparation doubtful.

In fresh serum agglutination may not infrequently be replaced by hæmolysis. This phenomenon is readily appreciated under the microscope, though it may escape observation on naked-eye examination alone. As pointed out above, its significance is the same as that of agglutination so far as the compatibility of a proposed donor's blood is concerned.

The dilution of the donor's plasma in the above technique has the advantage of inhibiting rouleau formation. The possible presence of auto-, hetero-, and pseudo-agglutinins has been a bugbear to many workers in this field. It has been shown by many authors that such interfering agglutinins when present exercise their effects only at low temperatures (Landsteiner and Witt [17]). It is for this reason that the preparations are left at room temperature and not placed in the ice-chest, as recommended by Guthrie and Huck and some other workers. Greater safety might be achieved by placing the preparations in the warm incubator, but I have not found this necessary.

This technique is, I believe, as simple as possible, and at the same time as safe, or possibly even safer, than the more elaborate procedures involving macroscopic agglutination or the washing of the donors' red cells. For the reasons given I do not think it necessary to test the red cells of the recipient against the serum of the donor. It is theoretically conceivable that trouble might arise from neglect of this precaution, but in practice I have never known it happen.

Conclusions.

In the selection of a donor for transfusion the one essential test is that of the recipient's serum against the red cells of the proposed donor, and this test should be carried out carefully and according to a standard technique. On considerations of scientific interest it is very desirable that grouping tests should be performed on recipient and donor alike, but little importance should be attached to them until we are more certain as to the constitution of the groups. In transfusion services the mere fact that a person is known to be of Group IV. can never justify the assumption that his blood will suit any and every recipient. Matching tests are as necessary for "Universal Donors" as for other individuals. It is probable that the blood of individuals of Group IV. will be compatible with that of more recipients than that of persons belonging to other groups, and they are therefore desirable persons to have on the roster of a transfusion service. With the recognition of the fact that matching must always precede a transfusion there is, however, no necessity for the exclusion of persons belonging to other groups from such a service.

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INTERMITTENT CLAUDICATION AND ITS TREATMENT BY DIATHERMY.

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LATE HOUSE PHYSICIAN TO THE INFIRMARY.

THE term "intermittent claudication" was first employed by H. Bouley in 1831 for a condition of lameness in horses where partial stenosis of the abdominal aorta and iliac arteries was present. Charcot, in 1858, fully described similar symptoms in a man where, as a result of a gunshot wound, an arteriovenous aneurysm was produced and the arterial trunk was in part obliterated. He therefore associated the symptoms with ischæmia, and there is much to support this explanation.

Patients seen in clinics generally show some atheroma and hypertension and are between the ages of 40 and 60. Most of them have other indications of bad circulation, such as angina pains, dead fingers, dyspnœa, &c. In several cases, however, the evidence of arterio-sclerosis is not very obvious and many cases have no hypertension. The ischæmic theory is further supported by the rapid recovery after a short rest and by the observations of D'André Thomas and Lévi-Valensi showing that during the attacks there is a diminution of temperature in the affected part. Babinski and Heitz showed that immersion in hot water during the attack increased the pulse oscillations and cut short the duration of the pain. The disease most commonly affects the lower extremities, but also occurs in the arms and back and, less commonly, in the vessels of the brain.

The early symptoms of the crural type are tiredness, light cramp in the calves, and sensations of heat and cold, usually in the toes but sometimes throughout the leg. The usual symptoms of claudication of the nervous centres include temporary paralyses, headaches, fatigue, inability for effort, alterations in character, attacks suggestive of migraine, changes in memory, aphasia, amblyopia and blindness, and narcolepsy. In all cases the symptoms are increased by exertion, by load, uneven ground, indigestion, and hurry; they are usually worse in winter. The condition in the leg sooner or later increases in intensity until agonising cramp develops; some cases progress to gangrene. In the brain some permanent organic change, such as hemiplegia, is liable to occur. Other cases develop the full clinical picture from the first without any preliminary warning.

As a rule, the affected extremity shows some mottling of the skin or vein streaks, a variation in local temperature, and a diminution or abolition of the pulse in the distal arteries. Shrinking of the retinal vessels has occasionally been noted in the cerebral attacks. Other cases fail to show any objective signs, and pulsation remains present. These facts favour the explanation of a definite anatomical stenosis, probably with a vasomotor element causing temporary spasm of the arterioles.

In 1905 Ramsey Hunt wrote: "Three factors must be recognised in the production of claudication ischæmia—one, constant and organic in nature, diminishing the calibre of the vessels; and two factors, inconstant and functional, the tendency to vasomotor spasm and the increased demand upon the circulation of the part during activity." Comroe [1] objects to the name in so far that the term "intermittent" is misleading. He points out that only the symptoms are intermittent, the anatomical stenosis which is responsible for the excruciating pains being constant. He therefore suggests the term "paroxysmal." Other terms suggested have been dysbasia intermittens angiosclerotica (Erb, 1898), angina cruris (Walton and Paul, 1902), and paroxysmal angiospasm dolorosa.

Ætiology.

Much doubt still exists as to the ætiology. Erb was the first to stress the importance of tobacco; of 172 cases only 7·4 per cent. were non-smokers and 50 per cent. were heavy smokers. Most writers agree with this statement, although Vaquez,[2] as recently as 1925, stated that too much stress had been laid on tobacco as a factor. Guilleminot [3] thinks tobacco very important, and quotes Meyer's statement that a diagnosis of intermittent claudication in a non-smoker is wrong. Parkes Weber [4] states that in the disease thrombo-angiitis obliterans, common in male Jews, of which intermittent claudication is a symptom, "he has never come across an instance of this disease in a woman, nor yet in a man who has not, or had not been a free cigarette smoker."

Other ætiological factors include alcohol, syphilis, gout, and diabetes. Déjerine believed that syphilis was nearly always an important factor, although Lian and Déscoust [5] found no improvement from anti-syphilitic treatment and could trace no importance in diet. Recently influenza has been blamed as the sole or provocative cause. Other considerations are the stress and strain of life, infectious disease, tea and coffee, &c.

Philips and Tunick [6] found a persistent leucocytosis in many cases of thrombo-angiitis obliterans, suggesting a chronic infection, although they also believed that tobacco produced alterations in the blood-vessels, either directly by making them more susceptible to inflammation and thrombosis or indirectly by effects on the vasomotor apparatus. Meyer in several cases found a hyperglycæmia.

The essential cause of the disease, therefore, like that of thrombo-angiitis obliterans, remains unknown.

The following case shows the disease primarily affecting the lower limbs, progressing to gangrene, and secondarily involving the cerebral vessels, with frequent attacks of hemiplegia and aphasia. The cerebral attacks are similar to those of two cases of transitory hemiplegia occurring at ages 57 and 71, reported by Langwill [7]; in neither was there any evidence of hypertonus or arterio-sclerosis.

A married Englishman, aged 59, a jeweller's assistant, first consulted one of us (A. W. G.) in August, 1924, complaining of a feeling of cramp in the left foot and calf on walking short distances, passing off after a brief rest, and recurring after another short distance.

Despite treatment as hereinafter described, the condition steadily became more severe until Oct. 5th, when he had intense pain in the left leg and took to his bed. On Oct. 6th the left leg below the knee was cold and dead and no pulsation could be felt in the femoral or popliteal arteries or in the dorsalis pedis artery. The leg was wrapped in cotton-wool and surrounded with hot-water bottles, but there was no return of pulsation. He was confined to bed for several weeks, and in January, 1925, definite dry gangrene commenced in the great toe, and on Feb. 26th the leg was amputated at the seat of election by Mr. Reginald Alcock. Unfortunately, no pathological examination was made of the blood-vessels of the leg removed. Healing was rapid except for the subsequent removal of a small sequestrum.

He remained well and had no further trouble until the night of June 14th, 1926. He awoke suddenly with a feeling that his whole body was dead. He could only move his head and upper part of the trunk. His mental faculties remained unimpaired and there was no pain although he was acutely anxious. He failed to get out of bed and could not cry for help, but after a few minutes the attack suddenly passed off and he was able without difficulty to move freely. His alarm passed away and he returned to bed and slept well till the morning.

On June 19th he had a similar attack and a third attack in the forenoon of June 20th while at rest in bed. The fourth attack occurred during dinner the same evening; the weakness was particularly marked over the right arm and leg and there was complete aphasia, except for an inarticulate noise, but consciousness remained throughout. This attack lasted about five minutes and was followed by ten similar attacks the same evening, all beginning with a slight warning, so that the patient could declare that an attack was coming. A minute afterwards the face became pale and more or less complete hemiplegia set in, involving the right side of the face, arm, and leg. He remained conscious but was obviously alarmed, and endeavoured to speak and answer questions but only achieved an unintelligible jargon. The attacks passed off completely except for a sense of weakness and weight in the right arm, and he began to notice that the finer movements of his fingers were at fault and writing became difficult. His script was shaky, uneven, and difficult, similar to that of writer's cramp, so that even tremendous mental effort failed to complete a word. The movements of the right leg were free while lying on the bed or sitting in a chair, but when standing no degree of effort could move the leg even when he was supported by crutches.

During the attack the right plantar reflex became a doubtful extensor and was quite definitely flexor after the attack. The ankle-jerk was present, but the knee-jerk could not be elicited owing to bony ankylosis of the joint. On July 7th, 1926, he was admitted to the North Staffordshire Royal Infirmary where he remained an in-patient until August 7th.

Previous History.—As a child he had a tuberculous right knee which has been completely ankylosed for many years as a result of fixation treatment. This is his only illness. He has led a quiet life, having his meals at regular hours and in no hurry. He drinks a pint of ale daily and a very occasional glass of spirits. There is no history of syphilis. He smokes ten cigarettes daily and about 2 oz. of tobacco in pipe per week. He was able to walk good distances and did a 10-mile walk every Sunday.

Family History.—His father died, aged 81, from cancer of the stomach. His mother died, aged 87, from cerebral thrombosis after repeated minor attacks of hemiplegia. His wife is healthy and has had no miscarriages. There are two daughters and one son alive and all in good health.

Condition on Admission.—His general nutrition was good. There was no anæmia. Apart from the amputation of the left leg and the ankylosis of the right knee, there was little to note on external examination. The teeth were bad, showing much dental caries and pyorrhœa. The heart showed no enlargement; the action was regular, 72 per minute, and no bruits were heard. The systolic blood pressure was usually about 130 mm. of mercury. No atheroma was noticed. The electrocardiogram showed no special features. The lungs and abdomen appeared normal. The cranial nerves were all intact and no weakness of the eye muscles was noted. Examination of the retinæ was done by Mr. S. McMurray who reported: "There is no evidence of arterio-sclerosis of the retinal vessels." There were no sensory changes to touch, heat or cold, and no astereognosis. The plantar reflex was flexor. The ankle-jerk was present and no ankle-clonus could be elicited. The abdominal reflexes could not be obtained. The arms were thin and there was some slight wasting of both thenar eminences and of the interossei muscles. The grip of the right hand was enfeebled. There were no tremors and no paralysis. The Wassermann reaction of the blood was negative.

The blood picture was: red cells, 7,200,000; white cells, 27,100; hæmoglobin, 65 per cent. Differential count: polymorphs, 79 per cent.; mononuclears, 1 per cent.; lymphocytes, 19 per cent.; basophils, 1 per cent. There were no changes in the shape of the red corpuscles. The blood-sugar was 0·18 per cent. The urine was clear, contained no sugar or albumin, and no renal casts. The blood-urea was 108 mg. per cent., and the urea-concentration test was normal.

Treatment.

The treatment of intermittent claudication in the past has been far from satisfactory, and has depended largely on the free use of vasodilator drugs and other remedies to act on the vasomotor spasm and relieve the ischæmia. Byrom Bramwell [8] remarked in 1907 that in cases which are not syphilitic "very little can, so far as we at present know, be done to cure the disease."

Recently diathermy has been tried fairly extensively and apparently with great success, because of its vasodilator effects on the small arteries and capillaries. According to Roeser,[10] diathermy is capable in some cases of checking the spread of the arterial block, and as the effects are rapid and there are no contra-indications to its use he advises its early application in all cases. This is important, as Lian and Descoust believe the good effects may be permanent.

General hygienic treatment should be carried out. Removal of septic teeth and other septic foci is essential as toxic absorption may be a factor in the production of the endarteritis which is probably always present. Abstinence from tobacco should be insisted upon, although it is difficult to believe that it had an important bearing in this case. Avoidance of exposure to cold and diminution of protein intake are recommended.

In this case all such treatment had been advised and followed since the condition was diagnosed in 1924, and regular treatment by potassium iodide, potassium nitrate, and nitrites had been carried out. Bier's congestive treatment seemed to give no relief. He was asked to drink 2 quarts of modified Ringer's solution daily, as recommended by Portis.[9] This solution is made by dissolving gr. 10 of potassium chloride, gr. 10 of calcium chloride, 6 drachms of sodium chloride, gr. 10 of sodium bicarbonate, and gr. 50 of dextrin in a gallon of distilled water. This treatment, however, was so distasteful to the patient that he did not persist for more than two weeks, although he has taken smaller quantities from time to time. After the amputation he was confined to bed, ensuring rest, but on several occasions he developed a sharp stinging pain in the left thigh with a large area of superficial blotchy redness on the outer side of the thigh; this yielded to local treatment by ichthyol ointment and warm applications.

The onset of the cerebral attacks decided us to try diathermy, especially as we were familiar with the good effects in cases of hypertension. Following the advice of Roeser,[10] Giraud,[11] Vaquez, and others, we gave exposures lasting 30 minutes, the maximum current used being 1000 milliampères. At first twice a week was considered sufficient, but later he was readmitted to the Royal Infirmary on Nov. 6th, and had this séance repeated daily for 20 days as recommended by Roeser and others. Lian and

Descoust emphasise that strong currents are not necessary and advise 1200–1500 milliampères.

If the plates are sufficiently large there should be a sensation of heat without burning or pain, and the blood thus warmed carries the superfluous heat to the rest of the body. There is probably, therefore, nothing to be gained by having one plaque over the seat of the arterial block. On one occasion we tried one plate over the left motor area, and this was the only occasion on which considerable headache followed the treatment. Improvement was noticed from the first, not only in the general well-being but also in the local effects. The writer's cramp speedily improved so that he could write with his usual facility in a short time, and his ability to walk was speedily restored. Pulsation in the femoral artery remained absent. Up to the present no further attacks have occurred, and the general health remains at a high level.

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AN OUTBREAK OF SPOROTRICHOSIS AMONG SOUTH AFRICAN NATIVE MINERS:

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AND
B. DAVIDINE PULLINGER, M.B., B.S. LOND.

SPOROTRICHOSIS usually occurs in isolated forms. We met it as an outbreak comprising 14 persons. This lends interest to the cases, apart from the fact that this is the first time that sporotrichosis has been recorded in South Africa. We have formerly called attention to the relative frequency of nocardia infections in South Africa as compared with infections by fungi of larger calibre.[1] Our own fruitless efforts to find a case of sporotrichosis, extending over many years, had led us to believe that the disease was non-existent in the country.

The Lesions.

For a few months the mine medical officer had noticed that there was an increasing number of natives suffering from various kinds of sores which did not yield to ordinary treatment. Routine laboratory reports on material from these cases mentioned only the presence of staphylococci. One of us (B. D. P.), on a chance visit to the mine, made a tentative diagnosis of sporotrichosis, which was fully confirmed when material from one open sore was sent to our laboratory, and on a suitable medium produced a typical growth of fungus after five days. This culture was badly contaminated by cocci and fungi from the air. A special visit was then paid to the mine, and 14 suspected natives were examined. In five cases culture of the fungus was attempted, and was successful every time, twice by aspiration of pus through the unbroken skin, twice from the contents of an opened abscess, and once from an ulcer. The other cases did not possess suitable material for cultivation and were diagnosed as sporotrichosis because their symptoms were so very similar to those five, because they yielded rapidly to treatment with potassium iodide, and also because their blood serum gave satisfactory agglutination and complement-fixation tests. Wassermann reaction was positive in two cases only; one of these gave a positive culture, and the other one gave a particularly high agglutination reaction.

A "primary sore" was found in nearly all cases in the form of a localised ulceration on a finger or on the shin. Sometimes this ulceration showed slight signs of healing. Ten of the fourteen cases had all their lesions confined to one arm, sometimes as high up as the shoulder region. The other four had primary sores on the shin, in one case a very large dry granulating surface, and their lesions extended up the leg, sometimes reaching the buttock. These lesions, extending from the primary sores up the arms and legs, were easily palpable, taking the form of a lymphangitis with nodules in various places. Incision of the nodules, which felt like lymph glands or small abscesses, produced pus or serous fluid, but no healing followed this surgical treatment.

At the time of our examination two natives had been in hospital in connexion with the affection for five months. The other cases were of shorter duration, from a few weeks to four months. Apart from their lesions the patients were in good condition.

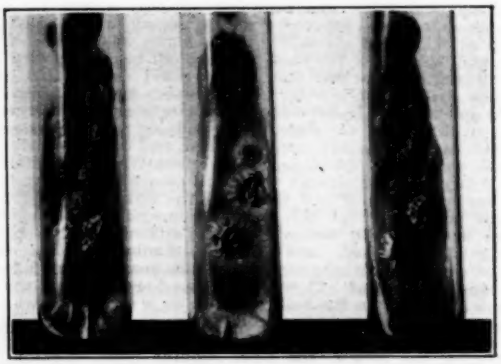
After administration of potassium iodide in the usual high doses all the natives returned to their work within two to three weeks.

Cultures and Serology.

All five cultures obtained proved identical. Their characteristics were briefly as follows:—

There was practically no growth in the incubator. This provided a method to ensure that cultures are pure, for contaminations which remain hidden at room temperature will show at blood heat. It is surprising how often apparently pure cultures are found to contain staphylococci. This is important because we have found that the fewer staphylococci there are present, the longer it takes for the brown pigment of the fungus to appear. We therefore believe that the degree of staphylococcal contamination present in an individual strain of *Rhinocladium* (*Sporotrichum*) *beurmanni* is responsible for its falling into any one of the three sub-groups, α, β, and γ, as described by Gougerot,[2] and which are differentiated only by the rapidity with which pigmentation takes place. Our description applies to perfectly pure cultures.

FIG. 1.



Cultures of the fungus on Sabouraud's glucose-agar two months old.

Sabouraud glucose-agar (Fig. 1).—Growth starts after a few days, as a convoluted centre with marked areola, and it spreads until it reaches the glass. The areola becomes

[1] Jour. Trop. Med. and Hyg., June 15th, 1927.

[2] Gougerot: Kolle und Wassermann's Handbuch der Pathogenen Mikroorganismen, Bd. v., 1913.

very broad, up to 1 cm. Pigment is slow in coming; after a fortnight the growth is hardly tinged. After six weeks it is like very weak coffee, with milk; after two months it is typical café-au-lait, and still older cultures become chocolate-brown. The medium, however, darkens more quickly than the growth, and is dark brown after two months, becoming pitch black after that. Sections through cultures show that there is at least as much growth within the medium as on the surface. The surface growth is not coherent. The central parts always remain very convoluted and the highest crests rise 3 mm. over the surface. They are surrounded by a flat zone, and then follows the fringe or areola.

Milieu d'épreuve.—Growth very rich, convolutions often rising higher than on Sabouraud glucose-agar. Pigment develops sooner, both in culture and medium.

Potato and glycerin-potato.—After a fortnight quite white corrugated growth, covered with fine spicula, surrounded by areola. Medium and growth become brown after one month, and nearly black after two months.

FIG. 2.

Microphotograph of hanging-drop culture of fungus ten days old.

Beerwort-agar.—Aspect of growth as above, but pigmentation sets in much sooner, the crests turning quite black in a fortnight.

Carrot.—Very rich growth, very thick convolutions, keeping white for at least two weeks and then showing patches where dark black spicula arise. Carrot does not deepen much in colour.

Ordinary agar and milieu de conservation.—Poor growth, keeping flat, but convolutions visible, quickly turning brown.

Glycerin-agar.—Rich growth, keeping white for over a fortnight.

Blood-agar.—Good growth, darkening rapidly, no hæmolysis.

Dextrin-agar.—Rich growth, keeping just tinged for a long time. The medium shows no signs of clearing.

Litmus milk.—Keeps fluid, with dark brown skin on top, white sediment, and bluish colour.

Glucose-peptone-water.—Surface skins form which sink and form again. Colour, white to light brown. Medium turns slightly acid, but does not become pigmented.

Coagulated blood-serum.—Hardly any growth, and no liquefaction.

Starch-paste.—Growth keeps white for a fortnight, then liquefaction occurs.

Coagulated egg-white.—Good growth, without liquefaction. Growth keeps white for a fortnight.

Carbohydrates.—Good growth, but no change in the usual media containing glucose, lævulose, maltose, galactose, saccharose, lactose, mannite, dulcite, dextrin, raffinose, arabinose, adonite, inulin, sorbite. Usually white tufts at bottom, sometimes white skins on top. No pigmentation of medium.

Gelatin and *glucose-gelatin.*—Observations extending over ten weeks. No liquefaction in either. Faint yellow tinge in growth on gelatin, no zona, convolutions present, trace of brown pigment diffusing into medium. Dark brown pigmentation on glucose-gelatin, brown pigment diffusing into medium.

Hanging-drop cultures (Fig. 2).—Branching threads, but no dichotomy, thickness 1·3 to 2 micron. Conidia formed irregularly along the threads, and also in bunches at ends of threads. No true conidiophores. The conidia measure 2·6 to 4 micron, and have a short pedicle, which remains attached to them. It also happens that the thread shows a protuberance where the spore is situated. After many weeks the threads are completely surrounded by the spores.

From this description it follows that the fungus isolated by us is *Sporotrichum*, or, to adopt Vuillemin's nomenclature, which we think is preferable,[3] *Rhinocladium beurmanni*. It differs only in one point, the non-liquefaction of glucose-gelatin. This may be due to our excluding all contaminations, especially of the staphylococcal kind (see above).

We are aware of the inherent fallacies of serological diagnoses in fungal infections, caused by their lack of specificity. We do not regard such tests as decisive, but as helpful. Positive agglutination reactions in serum dilutions varying from 1 : 80 to 1 : 320 were obtained with a suspension of spores in all cases where no attempt at cultivation had been made. Serums from various other patients gave negative results by this method. Complement-fixation tests were undertaken with an antigen consisting of the spores of a fungus which had been isolated from the nails of a patient with onychomycosis. This fungus, which has not been definitely classified yet, is at least closely related to the sporotrichons. Positive results were given by 7 out of 11 cases tested. Here also control sera gave negative results.

Animal Experiments.

These were undertaken to test the pathogenicity of the cultures. Three male white rats were injected intraperitoneally with a suspension of spores, and killed a fortnight later. They showed lesions in the abdominal wall at the site of injection, which had become hard and hyperæmic. Nodules were always found in the omentum in varying numbers. Liver and spleen were apparently normal, the chief lesions always being found in the scrotal sac. This was injected and showed nodules, and in one animal the testes were enlarged. Nodules were also found in the connective tissue round the testicles. On microscopic examination typically shaped spores were found in all these lesions, mixed with leucocytes, and surrounded by rings of fibrous connective tissue. Retro-cultures succeeded from all the lesions.

Discussion.

In South Africa sporotrichosis so far has been unknown. No pathologist lays claim ever to have isolated the fungus, although clinicians may have applied the term loosely to undiagnosed cases. It is strange that our own prolonged search should suddenly result in the discovery of an outbreak comprising 14 cases. The natives affected had nothing in common which differentiated them from the numerous other natives inhabiting the mine compound. They belonged to different tribes, had been in the service of the mine for periods from two to nine months, were engaged on different kinds of work in the mine, on different levels and in different shafts. They did not mix more with one another than with the other inhabitants of the mine. No simple clue was evident as to the origin of the infection. The seventy miles which separate the mine from the laboratory prevented further investigations.

We wish to thank Dr. A. J. Orenstein, superintendent of sanitation, Rand Mines, Ltd., and Dr. M. M. Pam, assistant medical officer, Modder East Mine, for giving us access to the clinical material.

[3] Brumpt: Précis de Parasitologie, 1922.

NEW POOR-LAW HOSPITAL AT STOKE-ON-TRENT.—The Stoke-on-Trent Board of Guardians recently unanimously approved a scheme for providing a new Poor-law hospital at a cost of £200,000. It will afford accommodation for 180 medical and surgical cases, with a central administrative block, an isolation block with 50 beds, a children's block with 44 beds, and a nurses' home with accommodation for 150 nurses. The special committee which recommended the scheme stated that, large as it is, it will be inadequate for the needs of the district, though it will do something to relieve existing difficulties. Dr. G. Gordon Lewis, the board's medical officer, stated that hospital accommodation in Stoke-on-Trent is quite inadequate, and added that it was "a disgrace that in a town with a population of 300,000 there is no provision for patients suffering from surgical tuberculosis."

Clinical and Laboratory Notes.

A CASE OF DIABETES WITH RENAL GLYCOSURIA.

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AMONG cases of true diabetes it is, of course, not unusual to notice certain ones in which the sugar tends to appear in the urine at either a high or a low level of blood-sugar concentration. In view of the danger of an unrecognised low renal threshold to the successful control of diabetes by means of insulin, the following case may be of interest.

A railway worker, aged 38, said that in the last few weeks he had had to give up his employment on account of failing sight. He complained of (1) this failing sight, which he had noticed first about 12 weeks before; (2) thirst, which had troubled him for about six months; and (3) profound general weakness for the last three weeks. He was married and had one healthy child. His family history and previous history were irrelevant.

Upon admission to hospital he was found to have a blood glucose content of 626 mg. per 100 c.cm. There was marked ketonuria. Examination of the eyes revealed nothing of moment.

Insulin treatment was started, and while next day the fasting blood-sugar was found to be 110 mg. it was noted that there was still much sugar in the urine. In the sample passed half an hour after this blood sample was collected there was found to be 4 per cent., and in one passed one and a half hours after 3·6 per cent. of glucose. A confirmatory blood estimation was therefore made, and showed 125 mg. per 100 c.cm. A sample of urine half an hour later contained 3 per cent. of glucose. The following investigation was subsequently done.

Urine.—The 24 hours' sample never contained protein or casts. The diastatic index was 10; chlorides, 0·5 per cent. (total 10·95 g.). Urea nitrogen, 1·45 per cent. (total 30·74 g.).

Blood.—The serum Wassermann reaction was completely negative. The fasting chemistry was uric acid, 3 mg. per 100 c.cm.; urea nitrogen, 20 mg. per 100 c.cm.

Renal Efficiency.—(1) Urea concentration: second hour, 2·6 per cent., third hour, 2·9 per cent. (2) Phenolsulphonphthalein excretion: appearance time (intravenous injection), five minutes. First hour, total specimen, 45·5 per cent.; second hour, 30·7 per cent., making 76·2 per cent. in all. (3) The Mosenthal test gave the following:—

—	Test quantity.	Sp.G.	Glucose (per cent.).	Corrected Sp.G.
8 A.M.	3 oz.	1040	1·8	1035
10 „	5 „	1040	2·3	1030
Noon	5 „	1038	2·4	1030
2 P.M.	3 „	1042	1·6	1037
4 „	3 „	1040	8·3	1023
6 „	5 „	1042	10·0	1009
8 „	4·8 „	1043	1·0	1040
10 „	7 „	1040	8·3	1023
Next day, 8 A.M.	8 „	1040	12·5	1004

Total quantity, 73·8 oz. (2189·6 c.cm.). Chlorides, 500 mg. per 100 c.cm. (total 10·95 g.). Urea nitrogen, 1·45 per cent. (total 30·74 g.).

The two charts show the investigation of the renal threshold point for glucose. In the case of Chart A the use of artificial light was unavoidable, and this no doubt spoiled the sharpness of the result by making it difficult to detect slight reduction of Fehling's solution by the urine. The actual concentration at which, in this case, glucose begins to pass through the kidney seems to be about 80 or 90 mg. per 100 c.cm. of blood, and the patient will always have sugar in the urine, unless he is given a dose of insulin sufficient to bring his blood-sugar dangerously low. Exactly five minutes, in fact, after the sample of blood was taken (which in the investigation of Feb. 25th was found to contain only 0·063 per cent. of glucose), and while the urine was still glucose-free, this patient did begin to manifest the sympathetic over-action characteristic of hypoglycæmia.

A fractional gastric analysis revealed a total absence of free hydrochloric acid, the total acidity reaching only 17·5 (at two and a quarter hours). Bile appeared first at two and a quarter hours, and starch persisted up to two and three-quarter hours. Radiographic examination of the stomach and

CHART A.

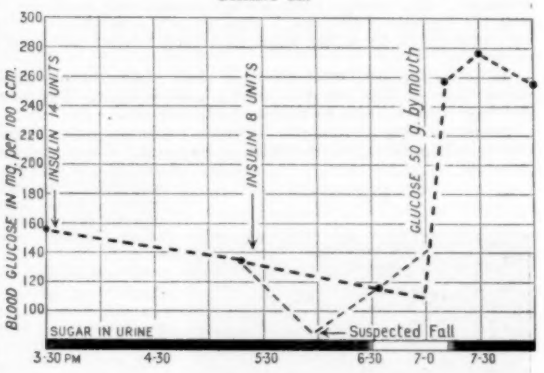
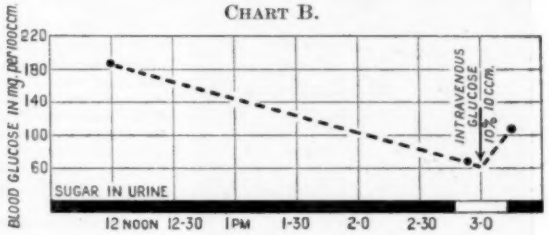


CHART B.



duodenum showed normal appearances, motility, and emptying. A radiogram of the pituitary fossa showed nothing of interest. The patient never had suffered from any dyspepsia or troublesome headaches. The systolic blood pressure was 138 mm. and the diastolic 90 mm.

Discussion.

It seems more than unsatisfactory to accept such very low renal thresholds for glucose—and many others raised to such levels as 210 mg. per 100 c.cm.—as inexplicable peculiarities, notwithstanding the remarkable uniformity of the normal. Slight delay in excretion of urea is certainly encountered in scores of cases where other tests acquit the kidney of any inefficiency, as in the case under consideration, and I have not observed such delay in uncomplicated renal glycosuria. K. S. Hetzel [1] has an ingenious explanation of the causation of hyperglycæmia in acromegaly, and suggests that pituitary over-action may, by direct action upon the kidney, raise the threshold point. I could find no evidence of pituitary insufficiency in my patient. Blood pressure readings were not low, nor was the specific gravity, carefully corrected for contained glucose, of the urinary samples throughout the day; nor had he any headaches. Admittedly, these points are not conclusive.

Since it seemed probable that the achlorhydria had preceded the hyperglycæmia, the patient—after three weeks' treatment aiming at correction of ketosis—was put upon acid hydrochlor. dil. (♏xx with water at meals), to see whether acid would have any effect upon the glycosuria, perhaps by changing, however slightly, the hydrogen-ion concentration of the serum. No change was noted. Possibly the lack of free hydrochloric acid may have something to do with the permeability of the kidney for even the most feebly concentrated solutions of glucose—perhaps by disturbing the balance of ferments in the alimentary tract. T. I. Bennett and E. C. Dodds [2] have shown

[1] THE LANCET, 1926, i., 440. [2] Ibid., 1925, i., 429.

that glucose solutions are retained and diluted in the stomach. In this case there is evidence that carbohydrates are not hurried through a rapidly emptying stomach; on the other hand, many processes in the gut will be modified by the want of the normal stimulus of acid leaving the stomach. It may be instructive to make gastric analyses in available cases of renal glycosuria, and to investigate renal threshold points of patients showing total achlorhydria.

A CASE OF HIRSCHSPRUNG'S DISEASE IN OLD AGE.

BY S. HAROLD COOKSON, M.D., B.SC. BIRM., M.R.C.P. LOND.,

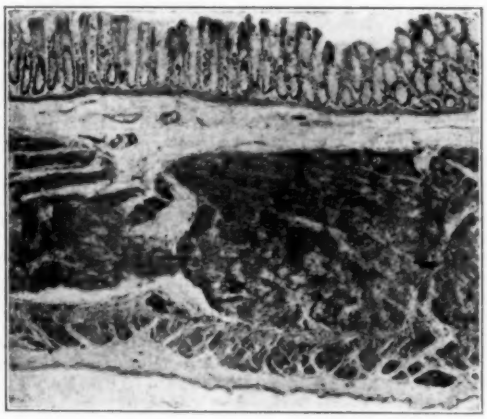
MEDICAL REGISTRAR, MIDDLESEX HOSPITAL.

THE following case has interesting features.

In September, 1926, a man of 69 was admitted to the Middlesex Hospital with the major complaint of swelling of the abdomen. He gave a history of good health, except for constipation which had troubled him for some years; five years before admission he had a "very bad stoppage of the bowels" for which the doctor thought an operation would be necessary. Since then he had been taking large quantities of purgatives. Four months before admission he noticed that his abdomen was swelling, and this gradually increased, to be followed soon after by swelling of the legs, shortness of breath, and general weakness. His appetite was good, and as to habits he took alcohol moderately, two glasses of beer per day, but smoked 1½ oz. of tobacco daily.

On examination he was found to be a very obese man; he was not cyanosed but had to sit propped up in bed owing to dyspnœa. The legs were slightly œdematous and the abdomen was very distended but not quite symmetrical. The upper part of the abdomen and left flank were most prominent. On percussion, dullness was only found in the left flank; this did not shift with change in the patient's attitude and there was no thrill. No definite tumour was palpable in the abdomen, and per rectum there was ballooning, but otherwise nothing abnormal. The heart was concealed by lung and no apex-beat or cardiac dullness were to be made out. The accessible arteries were only slightly thickened and the blood pressure was 150/105. The physical signs in the lungs were those of emphysema and chronic bronchitis. The urine was normal and the central nervous system was intact. The blood Wassermann reaction was negative and the blood count and blood nitrogen figures were within normal limits. After a few days in hospital the dyspnœa and œdema of the legs increased, while three weeks after admission the abdominal girth was 53½ in.—that is to say, 4½ in. greater than on admission. Constipation was severe throughout the period of observation. After he had been in hospital a month the patient died suddenly while trying to defæcate after a turpentine enema.

FIG. 1.

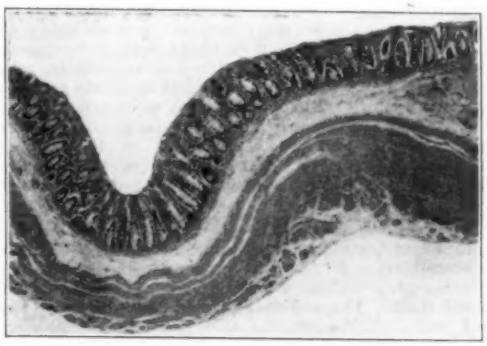


Section of descending colon from the case reported, showing thickening of muscular layer. (*Microphotographs from the Bland-Sutton Institute of Pathology.*)

At autopsy the large intestine was found greatly distended throughout; the diameter was maximal in the pelvic colon, where it was 6 inches. The walls were very thick, especially in the sigmoid and rectum; the latter was distended and occupied the greater part of the pelvic cavity. A large quantity of fluid and gas was contained in the colon. No evidence of organic obstruction was present in any part of the gut and the remainder of the alimentary canal was normal. The heart weighed 16 oz.; all its cavities were dilated; the muscle was fibrous; it showed brown atrophy, and the coronary arteries extensive atheroma. The cause of death was found in a large pulmonary embolus, the source of which was not traced.

The enormous hypertrophy of the musculature can be seen in Fig. 1, and by comparison with Fig. 2 it will be seen that its thickness is three to four times that of the normal. The mucosa is unaffected.

FIG. 2.



Section of normal descending colon to show thickness of muscular layer.

The interest of this case lies in the age of the subject. The condition is commonest in childhood and under the age of 10 years its incidence is 1 in 10,000. It is very rare over 30, and as far as I have been able to discover no case has been recorded over 40.[1] Bartle [2] records the case of a patient with megacolon who survived till the age of 29, and then, like the present one, died suddenly while trying to defæcate. Of the many theories which are held on the cause of the disease, that suggested by A. F. Hurst seems the most satisfactory. He suggests that it is due to an achalasia, or failure to relax, of either the anal or pelvirectal sphincter. In the former case the dilatation involves the whole colon, while in the latter it occurs above the pelvirectal junction. The case reported falls in the first category, as the rectum showed considerable hypertrophy and dilatation. The defect, on this view, is analogous to achalasia of the cardia, which leads to œsophageal dilatation. As in the latter condition the treatment consists in periodic stretching of the sphincter concerned, supplemented by enemata, abdominal massage, and exercises. Pituitrin injections and a low carbohydrate diet are also recommended.[3]

At what age, in the present case, the neuromuscular incoördination, which seems to be the likely cause, developed is a matter for speculation. All that can be definitely stated is that constipation was severe for the last five years of the patient's life; on the other hand, abdominal swelling had only been noticed for four months. The patient was an obese man, however, and it is not unreasonable to suppose that the colon had been dilating and producing a slow abdominal enlargement for years without attracting his attention. Also the degree of hypertrophy present in the colon muscle is not developed in a few months.

I am indebted to Dr. R. A. Young for permission to publish this case.

[1] Hurst, A. F.: Medical Essays and Addresses, 1924.
[2] Bartle, H. J.: Amer. Jour. Med. Soc., 1926, clxxi., 67.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

AT a meeting of this Society, held on Oct. 24th, Mr. HERBERT W. CARSON, the President, in the chair, a paper was read by Dr. VINCENT LYON (Philadelphia) on the development of the

Duodenal Tube and its Practical Value

in diagnosis and treatment. Dr. Lyon began by paying tribute to the work done on the subject in the past by British and American workers. As a diagnostic agent, he said, the duodenal tube was of less service in some regions than were other methods, but in all it afforded evidence not procurable by other means. In the œsophagus the value of the duodenal tube was limited and took a second place to the œsophagoscope and bougie; but it was of brilliant help in diagnosing stomach and duodenal conditions, especially when supplemented by X rays. It might indicate gastritis, catarrh, and reflex disorders which were not recognisable by the rays only. Particularly it rendered evident early primary alterations in the mucous membrane—i.e., long before gross structural change had developed to an extent to be recognisable by X rays.

Dr. Lyon proceeded to describe the method he employed of testing the 12-hour fasting residuum and the significance of the findings. Normally this was of pearly-grey colour and of the consistency of thin mucoid fluid. The sediment should not be more than 5 per cent. of the filtrate and the odour pleasantly aromatic. There should be no evidence of reflux bile colouring unless there was a pronounced gag reflex in swallowing the tube. Bile in the fasting stomach day after day was often the cause of morning nausea and a bitter taste at breakfast and anorexia. There should be no gross bleeding, and when such was present it suggested the presence of cancer, ulcer, papilloma, or syphilis.

Before, however, drawing conclusions from the presence of occult blood a careful examination should be made of mouth, gums, and pharyngeal mucous membrane. The fasting acidity was variable in degree, and it was doubtful whether there was a dependable normal to work upon. Many factors might influence it, such as sleeplessness, much alcohol taken the night before, worry, &c. The microscopy of the fasting residuum was also of much importance, especially was its analysis on a quantitative scale. If food abnormally retained contained meat fibre, starch cells, or fat globules, this showed either motor delay or unusually deep rugæ.

In the duodenal zone the duodenal tube possessed great diagnostic value in the majority of cases; he based this statement on many thousands of cases. It was a relatively easy matter for a soft rubber tube of small calibre to be carried through the pylorus into the duodenum, and he found no difficulty in intubating the duodenum in 20 minutes in a normal case; longer must be taken for a pathological one. Normally the pylorus rhythmically opened and closed four or five times each minute, and when the end of the tube was impinging on the pylorus and with the patient swallowing each minute, it would soon be able to enter the duodenum, and it then lay in the second portion of the duodenum in close relation to the common bile and pancreatic duct. As much duodenal contents as possible should be secured and its colour and characteristics noted, its mucoid content and degree of flocculation.

Practically all the text-books stated that the mucous membrane of the small intestine was lined only by columnar epithelium, but he and his colleagues had been impressed by the fact that the commonest cellular exfoliation from the duodenum was oval or cuboidal, not columnar. With the tube in the duodenum the occurrence of microscopical blood or occult blood was highly suggestive of duodenal ulcer or carcinoma of the head of the pancreas. He and his colleagues had made several classes of duodenal condition, such as the simple catarrhal, the exfoliative, the ulcerative, the infective. It had been found that in the sick cat and dog the motor power of the gall-bladder was distinctly diminished.

A differentiation should be made between cystic and common duct catarrh, and there ought to be a careful microscopical examination made of the bile fractions secured. He considered that the most important finding was an oleaginous material, which melted out in globules and was found in minute lakes. Chemically it was not a true fat, but a fat ester of cholesterol. In acute, subacute, and chronic cholecystitis there was an increase in the bile-stained material. In calculus cholecystitis the bile was often loaded with crystals—i.e., cholesterol, calcium, and bilirubin. Some gravel stones had been recovered in biliary drainage.

Over a large number of cases the duodenal tube diagnosis was found to be correct in 88 per cent. Only positive findings were of diagnostic value. In some cases the mucous membrane had been completely denuded, and in them the diagnosis of non-calculus cholecystitis must be made by physical and X ray examinations and by X ray examinations, as well as by a chemical study of the blood. When better physiological and chemical methods had been devised for the quantitative estimation of normal and pathological findings and evidence in regard to the bile, a greatly renewed impetus would have taken place, and many at present baffling problems would probably be elucidated.

In the medical variety and that due to parasites, also that due to toxæmia associated with hepatitis and cirrhosis of the liver, the use of the duodenal tube was of great value. It was also of great help in treating persistent hiccough. Also its employment in biliary tract drainage and in duodenal lavage was worthy of a trial. In regard to the treatment of peptic ulcer, in the States there was considerable discontent concerning the methods of treatment. Methods of surgery had changed, but the morbidity continued. Ten years must elapse before it could be known how many patients who had undergone treatment developed pernicious anæmia or other complications, as a result of radical technique. It was the poor who most frequently suffered from peptic ulcer, and the condition required that the patient should have six weeks of total disability and a year of partial return to normal activity. An investigation of the ætiology of the ulcer, the mechanical or chemical agency at work, any ulcer diathesis, syphilis, &c., would enable the disease rather than the ulcer to be treated. If infective, foci should be searched for and dealt with, such as in the antra and dental areas. It was important to avoid any routine rule-of-thumb treatment.

Dr. Lyon and his colleagues had been impressed with the frequency with which they found inter-abdominal lesions; indeed it was rare to find duodenal ulcer alone. There were few cases of cholecystitis which did not show some erosion, perhaps actual ulceration, in the duodenal aspect. During efforts to deal with ulcer one might be aggravating a cholecystitis. Speaking generally, Dr. Lyon said the method was found to be sound, and the results achieved from the use of the tube were superior to any they had previously obtained. No suitable cases for this treatment had, so far, required operation. Efforts were made to get the patient to understand the nature of his disease, and the tendency to relapse; it was as necessary he should realise that a careful life henceforth was required of him as in the case of a phthisical patient.

Discussion.

The PRESIDENT narrated a case which had recently been under his care, that of a man aged 62, who was admitted six months ago with an ulcer of the lesser

curvature, with the typical symptoms—pain, vomiting, and loss of weight. There was a 12 years' history of trouble, and during the four months before coming to hospital his symptoms had been continuous. X ray examination showed two ulcers, both on the lesser curvature. One of them had a crater towards the pylorus, the other being a small bud higher up. This, he thought, made it impossible to treat the case by radical measures. He therefore adopted feeding through the duodenal tube. He was fed through that, with short interruptions, for ten weeks, and the successive skiagrams (shown on the screen) demonstrated the gradual disappearance of the ulcer. From the time of the institution of that treatment the man lost all his symptoms, and for four months after he went out there had been no return of them; he remained in perfect health and was putting on weight.

Dr. ERNEST YOUNG said that for the last four and a half years he had been using the duodenal tube for various disorders of the gastro-intestinal tract, his 38 cases embracing gastric and duodenal ulcers, atonic stomach, chronic colitis, nervous vomiting, and tape-worm trouble. The most important service of the tube was in gastric and duodenal ulcer; in these conditions it had yielded him better results than had any other form of medical treatment. He demonstrated the apparatus he used. The tube was retained by the patient for a period of one to three weeks. Feeding took place through the tube for 18 days, eight liquid feeds being given through it daily at two-hour intervals, which enabled adequate nourishment to be kept up. The object was to secure rest to the ulcerated site. The food could be varied, and if necessary an aperient could be given in the same way, or a little morphia for sleeplessness. On the fourteenth day the patient was allowed out in the armchair for a short time, and when the tube was withdrawn ordinary solid food was at once resumed. Vegetable and other fibrous food should be first passed through a sieve when using the tube, to avoid its blockage. He gave details of cases, and said that if there was a relapse of the ulcerative condition after the medical treatment, he refused to institute a second course, recommending, instead, operation.

Mr. A. J. WALTON said an important matter was the diagnosis of the presence of gall-stones. His experience was that the cholesterol found had always been deposited from a diseased gall-bladder, not by a process of crystallisation. He had therefore been interested to hear Dr. Lyon say that crystals had been recovered by the tube in gall-stones. If that were accepted, it would be a strong argument for medical rather than surgical treatment. As to the surgical treatment of ulcers, he thought every surgeon would agree that the surgical treatment of gastric and duodenal ulcers must be only a temporary phase; to hack out such a lesion was but a gross form of treatment. He agreed that the results of it had been satisfactory, but thought it was destined at a future date to be abandoned. It was difficult to determine what was the value of medical treatment, because it was necessary to ascertain what were the permanent results of treatment. All persons could be relieved of their ulcer symptoms by medical treatment, but how long would they last in the conditions they had to return to? Very few could alter their occupations and conditions of life; therefore efforts must be made to so alter the patient's physiological conditions that the tendency to ulceration would be overcome. He thought that some of the forms of treatment now adopted were too advanced, and he had taken a stand against the ruthless performance of partial gastrectomy for small ulcers of the lesser curvature. He favoured more local procedures. Only by following up the cases could one determine accurately the end-results. He instituted such a department at the London Hospital in 1919, and he gave the general statistics which had resulted.

Dr. T. IZOD BENNETT was able to confirm all that Dr. Lyon said, from the diagnostic point of view, as to the value of the duodenal tube, and particularly in the case of gastric carcinoma. He had not had much experience of the tube for diagnosing lesions below the pylorus. Several cases had occurred in his own practice in which the tube enabled a diagnosis to be made of a pancreatic as opposed to a biliary lesion. The pylorus he looked upon as a valuable dam, separating the upper from the lower portions of the intestinal tract, and he always felt diffidence about penetrating that dam.

Dr. J. A. RYLE emphasised the importance of ascertaining as much as possible about normal conditions before drawing conclusions concerning the abnormal. Also it was very important to get the previous story of the particular ulcer in question, and the various treatments to which it had already been subjected. Diagnosis at a much earlier stage, which the profession as a whole should give more attention to, would render surgery far less necessary. Rarely did one see a case of gastric or duodenal ulcer with a history of less than six months.

Dr. STANLEY WYARD agreed with all that had been said in the discussion as to the value of medical treatment in the kind of cases under consideration, but he had been impressed by the risk of perforation or hæmorrhage during the progress of the medical treatment. For duodenal and gastric ulcer in the neighbourhood of the pylorus, therefore, he thought surgery offered the greater safety to the patient.

Dr. LYON replied in detail on the points raised.

ROYAL SOCIETY OF MEDICINE.

SECTION OF ELECTRO-THERAPEUTICS.

THE opening meeting of this Section was held on Oct. 21st, when Sir HENRY GAUVAIN gave an address on

Electro-therapeutics and the Future of Medicine.

He took his election to the presidency of the Section, he said, as a sign that members regarded the science of electrotherapy as embracing the full range of electromagnetic vibrations as a means of alleviating human suffering. Recent progress and achievement in this branch of scientific medicine compared favourably with that of any other. The developments which could be reasonably anticipated in the immediate and remote future made an irresistible appeal to the imagination. Few dreamers 100 years ago could have conceived that by submitting a subject to forces impalpable and invisible the inner structures of tissues and disease processes could be shown, rickety bones restored to normal, one person made bald, another enabled to grow luxurious locks. Imagination based on ascertained facts pointed the way to new discoveries. Where were the new forces leading us? Three practitioners of the specialty would indicate the advances which had recently taken place, dealing with the practical application of radiological methods to the diagnosis and treatment of two of the most serious afflictions of mankind—tuberculosis and cancer. The President thought it was imperative that all medical practitioners should have a perfect and thorough, if elementary, knowledge of the principles and practice of electrotherapy. He doubted whether its importance and potentialities were adequately recognised by the profession as a whole. The time had surely now come when systematic instruction in these methods should be given to all medical students. For this to be practicable, the status and influence of radiologists on hospital staffs should be further raised; they should rank equal to the physicians and surgeons, with their own wards, beds, and teaching facilities. The advance of this special branch in hospitals had been unduly delayed, to the detriment of the patient.

X Rays in Diagnosis and Treatment.

Dr. DUNHAM (Cincinnati, U.S.A.), a corresponding member, first paid a tribute to the good work done by the President in the field of phototherapy and electro-

therapeutics. The speaker's own work in this domain began in 1890 at St. George's Hospital, London, and he arrived at the view that if the radiologist wished to help the clinician he must translate X ray densities into terms of pathology. It was his experience that in order to do this with any accuracy, stereoscopic views must be taken. To understand the processes at work in diseased lungs, both a macroscopic and microscopic study must be made. Stereoscopy enabled the observer to detect the exact site of varying densities of shadow, and periodic skiagrams gave a clear idea of the progress of a given case. He illustrated this in a series of slides of several cases. Tuberculosis of the lung was clearly a disease of successive infections; one got well but another broke down. It was the business of the radiologist to keep a careful watch on these areas. In America there was so much anxiety to make the earliest possible diagnosis from the X ray plate that all did not realise the value of the rays as a guide to the continued care and treatment of the case. The worst thing the radiologist could do was to give to the clinician a haphazard guess. It was difficult to arrive at a diagnosis of miliary tuberculosis without a careful consideration of the history of the case. The clinician, on his part, should take the physical signs and translate them back to pathology, thus establishing common ground.

Dr. J. GRAVESEN (Denmark), who also was elected a corresponding member, gave an epidiascopic demonstration entitled

The Qualitative Radiological Diagnosis of Pulmonary Tuberculosis.

In recent years, he said, some very good results had been achieved in his clinic in cases of pulmonary tuberculosis. During the last 20 years, collapse therapy had developed to a very considerable extent; it was originally suggested in the form of artificial pneumothorax, and recently a chemo-specific remedy, sanocrysin, had greatly strengthened the means available for combating the disease. The two methods combined were responsible for a great reduction in the number of cases in which failure had to be confessed, and at the same time had considerably shortened the period of treatment in many instances. Sanocrysin was indicated in cases in which certain anatomical conditions were present—e.g., when the affection was of a fresh, exudative nature. Benefit could not be expected from it in all kinds of cases, and the failure to realise this was responsible for the diverse opinions which had been expressed about the remedy. In late cases, especially those showing cavitation and in which fibrosis had already occurred, the results from the use of sanocrysin were practically nil. Collapse therapy was applicable to the cases in which sanocrysin did not act. These facts rendered all the more necessary the careful use of every means towards a correct diagnosis of the actual type of case being dealt with. The diagnosis should not only include the degree of extension of the disease, it should give an impression of how the lungs looked, from the anatomical standpoint. X rays, stereoscopically used, gave the best help towards a qualitative diagnosis of this disease, and hence were the best guide to the right treatment in a given case. Dr. Gravesen showed an instructive series of slides, taken at different dates, to demonstrate successful results achieved by the two kinds of treatment in the types of case for which they were respectively suitable.

Cancer of the Breast.

Prof. HANS ISELIN (Bâle) contributed a paper on the treatment of cancer of the breast by X rays after operation. He said his efforts in this connexion were carried on from 1906 to 1913, and when Mr. Sampson Handley said he had obtained no very successful results in the treatment of cancer of the breast by X rays, the speaker had been for five years treating in this way inoperable primary tumours and inoperable recurrent growths. In the application of the rays to small operable recurrences and gland metastases he had already been obtaining good results. The most dangerous form of cancer, he considered, was scirrhus, and the least dangerous was medullary carcinoma. The best results obtained from operation were in a series of 62 cases, in which he had 48 per cent. of cures. Obviously surgeons had not been satisfied with the cures they had been securing, seeing that they were anxious to insist that an arbitrary period of three years' freedom from the disease should entitle them to make claim to a lasting cure. Only slowly did X ray treatment find a place in surgical practice. He had himself observed fatal recurrence of malignant disease after eight years, even after 16 years immunity. Even with the help of X rays a lasting cure of cancer of the breast was relatively rare. Heidenhain had shown that in order to remove not only the tumour but also the cancerous lymph tracts and glands, a radical operation was necessary. The spread of the cancer in the direction of the normal lymph stream was only the beginning of the trouble. The writer of the paper did not remove the pectoral muscles in relatively hopeful cases, but confined his attention to extensive removal of the fascia. Cancer of the breast was, he declared, very suitable for X ray treatment. As the growth might spread in all directions, mere irradiation of the affected breast was not sufficient, it must be supplemented by prophylactic treatment of the whole area. But he had never been a believer in intensive treatment by the rays, and did not employ in the cases under consideration what was known as a carcinoma dose. He had applied X rays in putrefying cancer, as a cautery, without using a filter. The whole of the cancerous area, so far as it could be seen, was removed by operation and the walls afterwards exposed to X rays; the wound was covered with skin flaps. The patient died shortly afterwards, however, from cellulitis of the floor of the mouth. Autopsy showed there was no cancer remaining, but the irradiation had acted badly on the patient by unduly lowering her vitality. As soon as a patient was somewhat rested after the operation, X ray applications were commenced, even as early as the first week. After the exposures ceased the patient was still kept under observation. The general condition should be carefully considered before deciding on irradiation. The use of the aluminium filter was no longer regarded as old-fashioned, and was again coming into prominence. In conclusion, Prof. Iselin said irradiation had improved the bad prognosis in cancer of the breast by 50 per cent.

On the motion of Sir PERCIVAL HARTLEY, seconded by Dr. CLIVE RIVIERE, a cordial vote of thanks was accorded to the speakers.

LONDON CLINICAL SOCIETY.

EXHIBITION OF CASES AND SPECIMENS.

A CLINICAL meeting of this Society took place on Oct. 20th at the London Temperance Hospital, when the chair was occupied by Mr. HERBERT PATERSON, the President.

A Case of Aneurysm.

Dr. P. K. BYRNE showed a man, aged 63, who complained that for some time he had been short of breath on moderate exertion. He was somewhat stout, and had at first attributed his breathlessness to that fact. Two months ago a severe pain on the left side woke him up, and he feared he was about to die. There had not been a repetition of such severe pain. However, his panel doctor, on being consulted, ordered him to take a holiday, and as that appeared not to have benefited him he came to the hospital. He was found to have marked pulsation on the left side of the chest, and a definite tracheal tug. There was much difference of opinion among the staff as to the condition of the vocal cords. The pulse on the left side was less than on the right. Wassermann was positive. Since iodide of potassium had been commenced there was much improvement.

Dr. H. H. SANGUINETTI raised the question whether the more modern and thorough methods of treating syphilis had modified for the better the prognosis of aneurysm, or was it still found that cases of the kind inevitably came to a tragic termination?

Dr. DOROTHY LOGAN related a case she saw some time ago in which a gumma in front of the aorta had eroded through the sternum and weakened the aortic wall, so producing what was practically an aneurysm. Active treatment resulted in a very satisfactory clearing up of the condition, and the threatened complete break-through was thus averted.

Dr. E. G. FRENCH said he thought there was no doubt that the modern treatment of syphilis did improve cases of aneurysm. He treated a number in the Army, with beneficial results, and he had had several cases in private of which he could say the same. A particular case was that of an inspector of police who had a marked aneurysm. After three courses of antisyphilitic treatment he got remarkably well, and was able to go up and down stairs. Modern treatment should always be given in cardiovascular cases in moderate doses. Many seemed afraid to give this treatment, but he was sure it was safe.

The PRESIDENT remarked that when once the artery had sustained a certain degree of damage no amount of treatment would make a success of the case, as destroyed tissue could not be replaced, and dilatation would continue.

Dr. MATHER CORDINER showed a number of skiagrams bearing on the subject of the

Radiological Diagnosis of Chronic Appendicitis.

He said he had had a number of cases of appendicitis in which the clinical signs and symptoms did not point to the appendix as the seat of the trouble. In four instances the symptoms seemed to point clearly to gall-stones, or cholecystitis; radiograms, however, clearly indicated that the appendix was diseased. In those cases the gall-bladder seemed to have been secondarily infected from the appendix, so setting up a catarrhal cholecystitis. In three cases the appendix was found in the region of the gall-bladder, and there was an undescended cæcum. One skiagram showed an undescended cæcum, and an appendix on the left side of the spinal column. Another showed calcareous infiltration of ileocolic glands. He had found this condition in 15 per cent. of his cases of appendicitis. In this condition the seat of tenderness was not at McBurney's spot. In some cases of appendicitis the stomach was similar to that seen in association with duodenal ulcer; it showed hyperperistalsis.

Mr. H. P. WINSBURY WHITE asked what symptoms Dr. Cordiner found to be associated with calcareous ileocæcal glands. Patients complained of pains which were very suggestive of colic, and it was difficult to know whether the patient had intestinal or renal colic. The clinical findings associated with such a pathological condition of glands were very obscure.

Dr. A. J. CLARKE asked as to the history usually given by patients with this kind of appendicitis. Had they had dyspeptic symptoms for some time previously, and developed appendicitis on those?

The PRESIDENT said he had found that children who had recurrent attacks of vomiting without pain were very apt, in later life, to develop either appendicitis or gall-stones; the latter was often an effect secondary to the diseased appendix. He did not agree with the exhibitor as to the kind of stomach associated with chronic appendicitis; what he had found in these cases was a dilated badly contracting stomach. Of course the abdomen should not be opened unless the X ray picture confirmed the opinion already formed.

Dr. CORDINER, in reply, said that in most of the cases there was a sudden attack of uncontrollable vomiting. All the symptoms cleared up after the appendix was removed. The position of the appendix varied in different persons, and radiography was necessary to a correct location.

Dr. FRENCH showed two cases of

Chancre of the Lip.

The first case was that of a woman, who was kissed by a man, and three weeks afterwards a sore appeared on her lower lip. When she came to hospital the submental glands were marked, and the chancre had a glazed appearance. Mr. Sanguinetti confirmed the diagnosis. She was given ten weekly injections of 0·45 g. of neokharsivan, increased to 0·6 g. and a gramme of mercury cream. The chancre cleared up in three weeks, and the Wassermann had become negative. The second young woman had a chancre of the upper lip, and she said she had been to a dance and her partner bit her upper lip. On that site she developed a chancre. She had had only a week of treatment, yet there was but little left of the chancre at the time the case was exhibited, but there was typical ulceration of the fauces. She was being kept on 0·45 g. injections and mercury. He had found that extragenital chancres were accompanied by more severe systemic disturbance than genital ones: possibly the inguinal glands had more power to protect the system than had the submental. A third patient, a married woman, had, when seen, already developed a secondary papular rash.

If cases of syphilis were seen early, perhaps one course, such as that he outlined, would cure the patient, but a Wassermann test should be carried out every two months. If it continued to be negative for a year, the patient could be declared safe in the matter of infection, and could, of course, be allowed to marry. When secondaries were present, however, the patient had severe systemic disease, and more prolonged treatment would be required than in such cases as the first two. In the case of women, should they become pregnant after having had syphilis, even though the Wassermann had persistently remained negative, it was wise to give courses of "606" until term, as otherwise they had proved capable of producing a syphilitic infant. It was not easy to say why this was so.

Case of Swelling of the Breast.

Mr. A. D. JONES showed, for the President, a woman, aged 69, who complained of a swelling in the left breast, which she said she had noticed three weeks ago for the first time. It had been discharging for a week, she was losing weight, and there was some pain in the swelling. The breast was definitely cystic, but deeper an indurated mass could be felt. Operation was proposed, but had been deferred because she had extensive dermatitis. No glands could be felt in the axilla. It had been suggested that the case might be one of Brodie's sero-cystic tumour, but Mr. Jones inclined to the view that the condition was malignant—a carcinoma which was breaking down and discharging—though the absence of palpable glands was somewhat against this. He did not doubt that the swelling had been present longer than the woman stated. The right breast was normal. A dermatologist had given his opinion that the lesion was not a gumma.

Mr. SANGUINETTI suggested that syphilis of the breast might be more common than was usually supposed. He did not regard the present case as one of carcinoma.

The PRESIDENT said that the only specimen of gumma of the breast in the museum of the Temperance Hospital had been regarded for some time as sarcoma. It was a very hard growth, it had grown rapidly, and there were no enlarged glands. Brodie's sero-cystic disease was, of course, malignant. It was unusual to find sarcoma of the size in this woman with no glands, and breaking down as this was. He could not feel positive it was not gumma.

Hydronephrosis in a Child.

Mr. WINSBURY WHITE showed a specimen of the left kidney with the whole of the ureter attached, which was removed from a boy aged 2½ years. The ureter was dilated and there was some dilatation of the kidney; a stricture was seen at the lower end of

the ureter, and another stricture at the top. The mother brought the child to the hospital because on several occasions there was blood in the urine. At first he had been unable to ascertain by the cystoscope which kidney the blood was coming from, but ultimately it was seen to arise from the left ureter. The passage of a ureteric catheter under the guidance of X rays showed that the condition was a megalo-ureter with hydronephrosis. A pyelogram showed that the fellow kidney was normal, and he then removed the offending kidney; it was impossible to do a plastic operation. The child did very well, and it had now lost its pyuria.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH.

ON Oct. 11th Dr. JOHN BOYD ORR read a paper on the

Influence of Diet on the Physiology of the Stomach.

He pointed out that in much of the earlier work there had been a tendency to limit attention to phenomena occurring in the stomach as if it were a semi-independent organ. The work of the past few years, however, had emphasised the close physiological relationship and interdependence between the stomach and the other parts of the alimentary system. A derangement of function originating in any part of the canal was likely to disturb the normal gastric activities, and many clinical symptoms located in, or at least referred to the stomach, had their origin elsewhere.

Discussing the function of sensation, Dr. Orr distinguished between hunger and appetite. The former could be correlated with the contractions of the gastric muscle, but the latter depended not only upon the tonus of the muscle, but also upon stimuli received from sight, smell, taste, and memory. Instances were given of perverted appetites in animals, and it was shown that these tended to occur on deficiency diets, and that often the abnormal substance craved for was rich in the substances in which the diet was deficient. Hunger, it was suggested, might indicate a demand for food in quantity, whereas appetite was to some extent an indication for food with certain qualities. Most modern work indicated that perverted secretion, or excess or deficiency of gastric juice, was of less importance in the ætiology of disease than had been formerly supposed. He regarded movement as the function which played the most important part in the maintenance of health and the causation of disease. Recent investigations had shown that the conception of the acid-alkali control of the pylorus was untenable. The movements of the stomach, including those of the pylorus, were of the same nature as those of the rest of the intestine, following the law enunciated by Bayliss and Starling. In health the pylorus was seldom if ever completely occluded. Whilst the general movement of the food was onward from the stomach to the intestine, there was a normal tidal flow between the duodenum and the stomach, and it was this tidal flow which regulated acidity in the latter organ. The chief factors which normally influenced movement were diet and the emotions. Dr. Orr quoted experiments showing that the composition of the diet had both an immediate and a remote effect upon movement, the remote effect being produced by an alteration in the circulating fluids of the body. One of the most interesting results of experiments with deficient diets was not the gross disturbances in the body which followed their use, but the disturbance of intestinal movement, which led to lesions such as inflammation and ulceration, especially in the pyloric and cæcal regions. Dr. Orr believed that emotions such as fear, anxiety, and anger, which stimulated the sympathetic, causing inhibition of movement and contraction of sphincters in the intestine, were an important factor in producing stasis in the lower part of the tract, and that this stasis was often the beginning of permanent lesions.

Reviews and Notices of Books.

RECENT ADVANCES IN OPHTHALMOLOGY.

By W. STEWART DUKE-ELDER, M.D., F.R.C.S., Assistant Ophthalmic Surgeon, St. George's Hospital. London: J. and A. Churchill. 1927. Pp. 343. 12*s.* 6*d.*

THIS book will be of great service to those who already have a competent knowledge of ophthalmic science, but have not had time of late years to keep themselves up with the latest investigations and their applications to practice. Those parts of the subject, such as refraction, which may be considered settled, are not touched on at all, and the book conforms strictly to its title. First we have a discussion on the nature of light according to the most recent theories, its transmission through the eye, its absorption by the different media, and its biological action upon them. As to the action of light upon the retina itself, and its transformation into nervous impulses, there is as yet very little real knowledge though theories are rife. The author thinks that until a more adequate foundation of experimental evidence is available, these theories are of little scientific value. There is, however, general agreement that the chemical action of light on the visual purple is an essential to the phenomenon of vision and a preponderance of agreement as to the existence in the retina of a double mechanism one called "photopic" for the light-adapted eye, depending upon the cones, the other "scotopic" for the dark-adapted eye, depending upon the rods. The former is concerned with what is termed visual acuity, the latter is characterised by its sensitiveness to stimuli of very low intensity.

The second chapter deals with the theories of accommodation. The classical one of Helmholtz appears to hold its own, but requires modifications, the most important being that of Fincham, who points out the prominence of the part played by the lens-capsule. If his facts are confirmed, the arguments for the rival theory of Tscherning lose their force. The more recent theory of Thomson Henderson on the part played by the sympathetic nerve is severely dealt with. The cause and differentiation of physiological and pathological halos are also explained.

The next chapter deals with the embryology of the human eye, and the congenital defects that can only be understood by reference to it. In this connexion reference is made to a forthcoming work on the subject by Miss Ida C. Mann. Chapter IV. deals with new methods of diagnosis. The slit-lamp is undoubtedly the most important of these, but it must be considered as an adjunct to the older methods of histology and clinical study, not as displacing them. The chief new knowledge which it has introduced is as to the structure of the normal and diseased lens. Koeppe's proposal to extend the principle by means of the contact glass to a microscopical examination of the living fundus is not considered of much practical value. The methods and advantages of examination of the fundus with a red-free light are given, and an instrument called the gonioscope is described which renders possible the examination of the angle of the anterior chamber under a magnification of 32 diameters.

The chapter on the general physiology of the eye deals with intraocular pressure and the nature of the intraocular fluids, abstruse subjects on which there is still much discussion to which the author has himself made important contributions. The subjects dealt with under the heading, Diseases of the Eye, include high blood pressure and arteriosclerosis, glaucoma, cataract, and sympathetic disease. A practical point in the diagnosis of glaucoma is a delay in the development of dark adaptation and a dulling to the sensitiveness for dim light, while the sense of light difference remains unaffected. As to cataract, the slit-lamp has thrown much light on the various forms which it assumes, but there is little advance

in the direction of explaining its ultimate causes or its prevention by medical treatment. Permanent opacities are due to coagulation of the proteins of the lens, but what causes this coagulation has yet to be discovered. When once the process has occurred nothing except removal by operation can restore transparency. Under the heading Sympathetic Ophthalmitis the newer methods of diagnosis, or assistance to diagnosis, are mentioned—Harrison Butler's slit-lamp test and the differential blood count; also some space is devoted to the anaphylactic theory of A. C. Woods. Coming to therapeutics, considerable interest attaches to the methods and results of ultra-violet phototherapy, on which the author is himself an expert, and which has found its chief use in obstinate cases of phlyctenular disease. The last chapter is concerned with the neurology of the visual paths and centres, the oculo-motor system, the trigeminal nerve, the pathological lesions in herpes, and finishes with an abstract of Sir J. H. Parsons's "Introduction to the Theory of Perception."

The work, though of modest proportions, is no light reading even for the trained ophthalmic surgeon. He will find much in it to stimulate thought, and the bibliographies which are appended to each chapter will help in further study.

SYMPTOMATOLOGY.

Klinische Symptomatologie Innerer Krankheiten. Krankheitssymptome (mit Ausnahme der Schmerzempfindungen). Second edition. By Prof. Dr. NORBERT ORTNER, University of Vienna. Berlin: Urban and Schwarzenberg. Vol. II. Pp. 330. M.15.

THIS is the second of three volumes, the first being divided into two parts dealing with abdominal pain and body pain respectively, while the third volume describes general clinical symptoms and differential diagnosis. The second volume deals with well-known symptoms common to many diseases, such as cachexia, loss of appetite, coma, diarrhœa, cough, dyspnœa, jaundice, dyspepsia, tachycardia. Only symptoms not associated with pain are considered. Each symptom is described in a separate chapter, and the various diseases in which it occurs are mentioned, together with the chief points of connexion between the symptom and the disease. Besides being described in the text, the disease is also referred to in the margin of the page, so that it is possible at a glance to see what diseases are associated with the symptom under discussion. The volume should be of real use to the physician in assessing the diagnostic value of a particular symptom.

EAR, NOSE, AND THROAT.

The Ear, Nose, and Throat in General Practice. By D. A. CROW, M.B., Ch.B. Edin., Oto-laryngologist to the Royal Sussex County Hospital and Sussex Throat and Ear Hospital. Oxford Medical Publications. London: Humphrey Milford, Oxford University Press. 1927. With 2 coloured plates. Pp. 160. 10*s.* 6*d.*

THE subtitle of this little book is "an informal guide to the main principles," and the author's intention is the laudable one of stimulating the interest of the general practitioner in those diseases of the ear, nose, and throat which are commonly encountered in his work. Dr. Crow rightly lays great stress on the prompt performance of paracentesis of the drum in cases of acute otitis, and considers that he will not have written in vain if, as a result, a single practitioner proceeds to incise a single ear-drum. In the attempt to avoid wearisome detail, perhaps too much has been omitted; there is no description of either Rinne's or Weber's test, and no account of the use of the Siegle speculum. The acute ear is well described from the practical point of view, and two important points are emphasised—namely, that a mastoiditis exists concurrently with almost every case of acute otitis, and that the antrum should be drained when discharge persists undiminished, though many will consider the time-limit of ten days to be too short. The author's method has been to describe some of the commoner affections, and to group the omissions into a final miscellaneous chapter. The notes in this chapter are mostly too brief to be of much value, and they are badly arranged—for instance, a very short note on laryngectomy is sandwiched between one on tinnitus and one on vertigo, and Vincent's angina between this and aural cerumen.

The book is brightly and vigorously written, and will be useful. It cannot take the place of a text-book, even for the practitioner who desires a minimum of knowledge of these special subjects.

DISEASES OF THE INTESTINES.

By A. P. CAWADIAS, M.D. Paris, M.R.C.P., Senior Physician, Evangelismos Hospital, Athens. London: Baillière, Tindall and Cox. 1927. Pp. 300. 16*s.*

THE student who is unfamiliar with French, Italian, or Spanish medical literature will find pleasure and interest in this volume. He will discover much that is learned, much that is imaginative, and not a little that is ill-digested. But when full allowance has been made for the great difficulties that confront any author writing in a foreign language, it will be agreed that Dr. Cawadias has produced a work scientifically conceived and well illustrated, and requiring only drastic editing to make it a real addition to our literature. The bibliography is an excellent and original one.

PATHOLOGY OF THE NEW-BORN.

Biologie und Pathologie des Weibes. Edited by JOSEF HALBAN and LUDWIG SEITZ. Section 37. Berlin and Vienna: Urban and Schwarzenberg. 1927. Pp. 314. M.22.

WITH the exception of a short article by Prof. M. Stickel on asepsis in obstetrics, this section of Halban and Seitz's comprehensive work is devoted to the new-born infant. It consists of two parts, on the physiology and the pathology of the new-born, both by Prof. A. Reuss, of Vienna. The first part describes in considerable detail the peculiarities, anatomical and physiological, of the infant at and after birth, paying special attention to the stage of development reached by the various systems, and the alterations in the blood and viscera which accompany the establishment of independent existence. The second and larger part gives a comprehensive, and at the same time readable, account of clinical disorders met with in the first weeks of life, as well as of congenital malformations. It is fully up to date, and contains much well-chosen material which has not as yet found its way into most text-books. This is particularly exemplified by the account of intracerebral birth hæmorrhage, and its immediate effects, based on the work carried out at Frankfort by one of the editors (Dr. Seitz) and P. Schwartz, and containing illustrations drawn from their works. The whole volume is profusely illustrated, and an exhaustive bibliography renders it a valuable book of reference.

TEETH AND HEALTH.

By J. SIM WALLACE, D.Sc., M.D., L.D.S., Lecturer on Preventive Dentistry, King's College Hospital. London: Faber and Gwyer. Pp. 214. 3*s.* 6*d.*

THIS book, which is one of a series of modern health books, under the general editorship of Prof. Fraser Harris, intended for the general public, is an excellent example of what such a book should be. Clearly written, in language sufficiently free from technical phrases to be easily understood, it sums up the present state of our knowledge, and indicates the broad lines of preventive dentistry. Dr. Wallace has himself made notable contributions to the ætiology and prevention of dental disease, and, as might be expected, the views with which his name is associated receive full discussion here. If we have a criticism to offer, it is that perhaps he over-emphasises his own views

and does not state sufficiently the views of other workers which do not coincide with his own. Those familiar with dental literature are aware that Dr. Wallace is opposed to the view that defective structure of the teeth is a factor of importance in dental caries. In a book designed for general reading we feel that it would have been wise to mention other views which are held to shed light on the prevalence of caries, and to offer a possible way of diminishing its incidence. But this one-sided attitude does not detract seriously from the merits of a book which is well written, well produced, and cheap. A few more illustrations might with advantage be added in future editions.

DIAGNOSIS OF PANCREATIC DISEASE.

By ROBERT COOPE, M.D., M.R.C.P., Senior Assistant Physician, Royal Southern Hospital, Liverpool. London: Humphrey Milford, Oxford University Press. 1927. Pp. 112. 5s.

THE Rogers prize essay of the University of London is reprinted in this volume. The ætiology, symptomatology, and clinical findings in pancreatic disease are fully and logically described. The laboratory findings are discussed with critical acumen, and the book will be found useful by all interested in the subject.

Messrs. Jackson, Wylie and Co., Glasgow, have published in pamphlet form, as No. IX. of Glasgow University Publications, the Macewen Memorial lecture on the Meningiomas, delivered in Glasgow last June by Dr. Harvey Cushing, professor of surgery in Harvard University. The latter part of this lecture appeared in THE LANCET of June 25th, 1927; the earlier part, which now appears for the first time, deals with the traditions of the Glasgow School of Surgery and describes certain of the hitherto inoperable meningiomas arising from the floor of the anterior cranial chamber.

JOURNALS

ARCHIVES OF NEUROLOGY AND PSYCHIATRY. Vol. IX., 1927. Edited by FREDERICK L. GOLLA, F.R.C.P., M.B. Oxf. London: P. S. King and Son, Ltd. 1927. 15s.—This year's Archives are prefaced by an obituary of Sir Frederick Mott, reprinted from THE LANCET (1926, i., 1228), a bibliography of his works, and his Harveian Oration for 1925; it also contains three of his latest studies—those on the larynx of the Siamang Gibbon, the adrenals in dementia præcox, and the pituitary gland in asylum and hospital patients. All the 30 papers in the volume have appeared in various journals during the last three years, and all represent the patient work of first-class investigators into the fundamentals of insanity. Three of them, one of which appeared in THE LANCET for April 17th, 1926, deal with encephalitis lethargica; Dr. P. K. McCowan writing, with others, on the variations in the blood picture and the effect of hyoscine on the carbohydrate metabolism of patients; and Dr. A. Hancock on changes in the cerebro-spinal fluid. Dr. Isabella Robertson contributes two articles, and Dr. A. A. Petrie one, on circulatory abnormalities in psychotic patients, particularly the hæmoclastic crisis, a reaction to the injection of milk: this promises to be of diagnostic value in some of the psychoses, especially dementia præcox. Neurology is represented by the work of the editor on variations in the time relations of tendon reflexes, and on the electrical recording of voluntary movement, and by that of Dr. McCowan on the physico-psycho-galvanic reflex. The treatment of dementia paralytica by malaria is discussed in a report from the research team of the London County Mental Hospitals, the headquarters of which are now at the Maudsley Hospital, under the new organisation (described by the editor in a foreword to the volume). The value of tryparsamide in the same disease appears from the account given by Dr. W. S. Dawson of his results; this appeared in our issue of May 23rd, 1925. Dr. Dawson also contributes, with Dr. Mary Barkas, a paper on the somnifen treatment of the psychoses; and Dr. Barkas writes with equal lucidity and knowledge on the contribution of psycho-analysis to the treatment of mental patients, tonic spasm of the eyes in conjugate deviation, and the significance of social conditions in the ætiology of mental disorder. Dr. McCowan, in addition to the articles already mentioned, reports four cases of pellagra, and contributes a study on the circumvention of the typhoid carrier. Mr. S. A. Mann, in his paper on the lævulose test, indicates the necessity for eliminating a bewildering number of factors unconnected with hepatic insufficiency before the finding can be relied on as an aid to diagnosis, and casts doubt on the results of former investigators. Other contributions deal with the neutral sulphur excretion after the ingestion by dementia præcox patients of sodium thiosulphate; the cerebro-spinal cholesterol in certain mental diseases; and an account of a case of herpes apparently due to invasion of the ganglia by round-cell sarcoma. The work of the inquirer would be facilitated if this admirable collection were paged consecutively.

JOURNAL OF INDUSTRIAL HYGIENE. September.—Two long and useful articles appear in this issue. The first, on health hazards in the cotton industry, is the first instalment of Dr. W. F. Dearden's Milroy Lectures (1927). Mortality figures are given showing that the health of cotton operatives on the whole is but slightly below that of the standard for the kingdom; but certain groups—e.g., those opening the bales of cotton and employed at carding engines—are found with high mortality from respiratory diseases, particularly bronchitis. Estimates of the sickness incidence by Dr. Dearden tend to substantiate these figures. The records of the medical officers of health for Blackburn convey the impression that weaving must be considered a healthful occupation, particularly for women. Much discussion and research has been directed to the effect of temperature and humidity upon cotton operatives, and the whole of the subject is completely summarised with a description of the processes concerned in the manufacture of cotton goods from spinning to weaving. As the temperature rises above 72° F. the thread benefits by a rise in temperature which is physiologically disadvantageous. Cotton operatives are said to enjoy freedom from the ill-effects of high blood pressure, this freedom being ascribed to removal of waste products of metabolism by sweating. A number of observations are given to establish what are the atmospheric conditions normally existing in the mills, and methods are described by which these conditions can be ameliorated without interfering with production.—The second article is based on a clinical study of the effects of mine gases. The writer, R. F. Herndon, had under observation 145 men whose disability was ascribed to exposure to abnormal conditions of the air in coal-mines. Frequently the disability was due to concurrent disease, while the condition most often causing trouble was ascribed to stagnant air. Bad air—i.e., air containing poisonous gas—was less frequently to blame. Carbon monoxide was the most common gas causing disability. An able summary of knowledge with regard to carbon monoxide poisoning is given, and we are reminded that plants and insects (which have no hæmoglobin) are essentially unaffected by CO, while brain cells grow profusely in an atmosphere of 79 per cent. carbon monoxide and 21 per cent. oxygen. Carbon monoxide acts by depriving the tissues of oxygen. All symptoms can be explained by this action, particularly since the cerebral cells exhibit great susceptibility to lack of oxygen. Indeed, nerve cells after temporary deprivation of oxygen may never thoroughly recover. Other gases occurring in mines such as CO_2 and methane are of little importance, but occasional nitrous fumes arising from incompletely detonated explosives may cause fatal accidents. Interesting histories are given of 11 typical cases seen by the author.

THE LANCET.

LONDON: SATURDAY, OCTOBER 29, 1927.

CHRONIC GASTRITIS.

To many practitioners gastritis is a disease occurring with great frequency amongst their patients, whilst others look upon it as so rare as to be almost non-existent. It is true that there is no text-book on medicine published in any civilised country which does not devote a considerable amount of space to describing the condition, but on the other hand these statements do little to enable even the experienced clinician to diagnose it with any certainty. Clearly, then, gastritis is an obscure disease, and the more interest therefore attaches to Prof. KNUD FABER'S Schorstein Lecture published at length in our present issue. Prof. FABER is an authority on this subject, to which he has devoted peculiar attention, and few can read his lecture without increasing their knowledge and finding some fresh stimulus to observation.

Gastric analysis, when first introduced, turned the attention of the medical world to the outstanding disturbances of secretion—hyperchlorhydria and anacidity. But these, as Prof. FABER points out in his introductory paragraphs, cannot properly be regarded as diseases. They are at most symptomatic, and he proceeds to discuss the relation of each to the actual disease—namely, gastritis. In earlier times the term gastritis was equivalent to "catarrhal inflammation of the stomach," but to-day it is recognised that besides damage to the surface of the organ by various noxious agents, it is possible, and very likely easy, for the deeper layers of the stomach to be injured by toxic agents arriving by way of its blood-vessels. Thus the gastric secretion may be impaired by diffuse lesions of the glandular parenchyma or ulcerations of the surface which take origin in necroses beginning in the deeper layers. Prof. FABER for this reason believes that the stomach undergoes pathological changes akin to those seen in the inflamed liver or kidney. His views on the pathogenesis of achylia gastrica are both interesting and original. He holds that achylia is always the result of chronic gastritis, which in its turn is often due to widespread and deep-seated hæmatogenous inflammation, following an infectious fever during childhood or even in early infancy. In extensive histological studies, carried out with special precautions to avoid the failures associated with rapid post-mortem disintegration of the gastric mucosa, he has observed inflammatory changes in the stomach at all ages and of sufficient degree to support his theory about their effect on secretion. Again, he has been able to observe achylia, severe in degree but temporary in its manifestations, occurring especially amongst children recovering from severe infection. In a statistical study embracing many hundreds of cases he demonstrates that achylia becomes much more common as age advances, and this he considers evidence in favour of his view that it is a phenomenon secondary to infectious disturbance. He attributes our general lack of knowledge of the subject to the fact that gastritis is essentially "silent"; it is well known, for instance, that alcoholic gastritis—which he calls "the one form of the disease commonly due to agents acting on the surface of the stomach"—can produce violent symptoms for a time, and then leave the patient with complete achylia, yet apparently in perfect health. Gastric digestion can be completely replaced by pancreatic digestion, and only the stomach tube or histological section may demonstrate the chronic inflammatory changes still present in the stomach. The grave sequelæ of achylia are indirect and tend to show themselves outside the intestinal tract, the withdrawal of the disinfecting properties of hydrochloric acid occasionally leading to diarrhœa and anæmia.

The second part of the Schorstein Lecture is concerned with the relation between hyperacid secretion and gastric ulcer. The syndrome of REICHMANN, which consisted of hyperacid gastric secretion associated with post-prandial pain, is now universally recognised as a usual accompaniment of ulceration of the stomach or duodenum, but, as Prof. FABER points out, it has lately become more and more evident that the "syndrome pylorique" described by G. SOUPAULT and ALBERT MATHIEU is not invariably associated with an ulcerative lesion, and such cases, in his opinion, are usually the result of juxta-pyloric gastritis. This view he apparently bases on histological material obtained at operation. Macroscopic examination gives little evidence, but the microscope has revealed much inflammatory change amidst the normal material. Wherever there has been actual ulceration, says Prof. FABER, the other changes are to be found, and from these observations he concludes that the oldest hypothesis concerning the pathogenesis of gastric ulcer, that advanced by CRUVEILHIER, is once more coming to the front—namely, that gastritis is the preceding cause of gastric ulcer, and that ulcerative pyloric gastritis is the cause of all juxta-pyloric ulcers.

There is much that is controversial in the lecture. Prof. FABER seems, for example, to reject altogether the embolic view of the origin of peptic ulcer, although it is not wholly out of harmony with his general opinions on the frequency and importance of inflammatory gastric lesions. But the challenging nature of his views in itself gives them importance, and without expressing strong approval or disapproval of them we take pleasure in setting them fully before our readers.

THE HEREDITY OF CANCER.

THE question whether cancer is hereditary is of manifold importance. The clinical evidence in the human subject gives no convincing indication of the disease being inherited. Occasionally cases are reported where several members of a family have succumbed to the disease; but the rarity of such an incidence as compared with the large number of deaths from cancer may be taken as an indication that in man heredity does not play a significant part in the genesis of cancer. Life insurance companies, which have a financial interest in the matter, do not attach any importance to a cancerous ancestry.

The evidence from man, however, does not dispose of the problem, for in man the ancestry, from the point of view of the incidence of cancer, is always mixed. This difficulty is not present in breeding experiments among the lower animals; and in order to obtain evidence of the appropriate sort experiments in inbreeding among mice of known cancerous ancestry have been performed. The first observation along these lines by E. E. TYZZER and by J. A. MURRAY gave a clear indication that under exceptional conditions a

hereditary factor exists which is probably of the nature of a predisposition to cancer. The most extensive observations dealing with this point are the breeding experiments of MAUD SLYE, continued since 1914. These laborious and careful observations, recorded in a large number of papers, have been interpreted by Miss SLYE as demonstrating that cancer is transmitted by inheritance along Mendelian lines. Dr. E. A. COCKAYNE now points out[1] several fallacies which invalidate Miss SLYE'S conclusions. He agrees that both in mice and in men there are disorders of growth which are inherited and on the basis of which cancer may develop. But he continues, "most of these disorders of growth are rare, and it seems unlikely that the proportion of cancer arising from them to the total number of cancers in the general population can be a high one, but other unrecognised disorders of a similar kind may be more numerous than is at present suspected, and until their existence has been proved or disproved, their importance in the production of cancer cannot be assessed. . . . Experiments on animals show that an inherent cell defect is not necessary for the production of malignant growths. . . . There may be an inherited susceptibility to cancer in normal tissues, and in the case of some animals there is already experimental evidence to this effect, but at present it is too scanty and too incomplete for it to be reviewed with advantage. Whether it plays a part in the case of human cancer, and if so, how great a part it plays, are questions still more problematical and still less ripe for discussion." The paper, which contains a number of interesting data, is closely reasoned and will repay careful study.

We take this opportunity of drawing attention to the *Cancer Review* now completing the second year of its existence. This journal, which is published under the auspices of the British Empire Cancer Campaign, presents to the reader a critical commentary on the current literature of cancer by means of abstracts of the more important papers and by occasional reviews on selected subjects. The editors, who are experts in the various branches of cancer research, are also the abstractors. A careful annual index adds greatly to the value of the journal. It is difficult for the non-expert to find his way through the literature on cancer, not merely because it is very extensive, but because so little of it is good and reliable. Much of it is so highly technical that only those engaged in similar work and conversant with the technique can express an opinion on its value. By serving as a sane and reliable guide the *Cancer Review* is fulfilling a useful and important function. Maintained at its present level it will become the standard work of reference on cancer.

THE PANEL DOCTOR AND THE MINISTRY.

LAST year's annual conference of Local Medical and Panel Committees empowered the Insurance Acts Committee to negotiate with the Minister of Health on certain proposals to modify disciplinary procedure under the Acts. This procedure has caused alarm, friction, and mistrust ever since the Ministry replaced the Health Commissioners. Certain decisions made by the Minister have aroused strong demands for a direct appeal to the High Court against his judgments, and whilst the Insurance Acts Committee and the majority of the conference recognised that there were objections to this proposal, it was obvious that some safeguard against arbitrary action by the executive was urgently needed. This feeling was reflected in a limited resolution by the 1926 conference that there ought to be an appeal to the courts on the grounds of irregular procedure, or alleged vindictive penalty, and where a common law action by the patient would normally lie, whilst the question of appeal in other cases was left to negotiation between the Insurance Acts Committee and the Ministry.

After keen debate at its meeting last week the Panel Conference agreed to give three years' trial to a scheme summarised by Dr. H. G. DAIN, Chairman of the Committee, in a speech which we report on p. 933. The essence of this scheme is to provide representation of the panel doctor on every body which considers complaints against him. One of the chief grievances of the practitioner has been that the progress of every case, between the hearing by the Medical Service Subcommittee or the Committee of Inquiry and the decision of the Minister, has been shrouded in an impenetrable mist, and it is to be hoped that this will now be dispelled. A panel doctor, chosen by the Insurance Acts Committee, is to be present at the hearing by the insurance committee, and at the hearing of the appeal (if any); whilst three doctors, chosen by the Minister from a small panel nominated by the Insurance Acts Committee, are to constitute with the chief medical officer of the Ministry and his two assistants, a new Joint Advisory Committee to help the Minister in his final decision. Among other reforms, the Minister agrees to instruct insurance committees to see that charges are made as specific as possible, and to forbid their clerks to act as prosecuting counsel in cases sent by them, or by the Medical Benefit Subcommittee, to the Medical Services Subcommittee. The best shorthand writer on the insurance committee staff is to attend the proceedings before the Medical Services Subcommittee and take notes from which the clerk will prepare a full memorandum; before this memorandum is circulated to the insurance committee, it will be submitted to the members who were present at the hearing. The Medical Service Subcommittee, besides being able to recommend the withholding of a grant, the removal of a patient from the doctor's list, the limitation of the list, or the removal of a doctor from the panel, may now recommend that a doctor be warned or censured, and it is hoped that insurance committees may in practice send such recommendations instead of advising the Minister to withhold a grant. The Minister's power to withhold grants without instituting an inquiry is now limited to cases of failure to keep proper records, or to return Form R.2, or to notify cases of tuberculosis; and except where a doctor has been convicted of a felony, he agrees not to order an inquiry without any representation from a medical service or joint services subcommittee. A minor source of dissatisfaction has been removed by a new clause imposing on complainants a time-limit of eight weeks, after which no committee will be allowed to investigate a case without the Minister's express approval.

Bureaucracy, of which lately there have been fresh complaints, voiced particularly by the Lord Chief Justice, takes two familiar forms. One is the excessive recourse to rules and regulations, the other is the tendency to elevate a department or a Minister into a judicial tribunal from whose judgments there is no appeal. The fear of departmental government lies behind the criticism, levelled by delegates to the conference, that the scheme is not watertight. The Minister, it was argued, will not be compelled to accept the advice of the new body, and

[1] The Cancer Review, October, 1927.

since he does not bind himself to nominate members of the panel in rotation, he will be able to select those who prove complaisant to his wishes. The right of appeal to the courts, said the scheme's opponents, was the only effective safeguard against injustice. As a whole, however, the conference felt that the new proposals were sound and ought to work, assuming goodwill and the intention to play fair on both sides. If the parties are not going to follow the ordinary rules of straight dealing, then no machinery is likely to run smoothly; the success of any scheme depends largely on the men who work it. If the Minister of Health, whoever he may be, should so lose sight of the general good as to ignore the Advisory Committee or make its function negligible, or if the representatives of the panel should fail in their obligation to protect the doctor from the admission of unfair evidence or irregular procedure at the various stages of an inquiry, then it will be necessary to find some other way. But it would be unfair to assume such failures at the outset. Little harm can be done in three years, and there will be a general desire to find in the new arrangements a convenient means of securing justice.

Annotations.

"Ne quid nimis."

HYGIENE FOR SEAMEN.

SEAMEN in the mercantile marine seem to be coming into their own at last. Their grievances were first seriously voiced in 1894. In that year Sir W. Forwood, chairman of a conference of the Sanitary Institute at its Liverpool Congress, described "the old fo'c's'le, right in the bows of the ship, often not more than 4½ or 5 ft. high, cumbered up with windlass, chain cables, and hawsers, flooded with water, which rushed through the hawsepipes every time the ship plunged into the sea, destitute of sanitary conveniences of any kind, and filled with the hot steamy atmosphere of bad tobacco and damp, drying clothes, for which there was no escape, as there was no ventilation whatever; no wonder that existence in such dens degraded the life of a seaman." He was followed by Dr. W. Collingridge, M.O.H. of the Port of London for the previous 14 years, who in his time did much to prevent infectious disease from entering the country from abroad, to stop typhoid fever being spread by oysters, and to clean the kitchens of City restaurants. Dr. Collingridge, in a paper on the hygienic needs of seamen, which we published on May 5th, 1894, asked for many improvements on ships, which few readers of that day could have thought other than Utopian. He asked that the men should be berthed in deckhouses aft, that meanwhile a forecastle should be 6 ft. high at least, with cork paint over its naked iron, no capstan in it nor ship's stores, ventilation and better heating, and for the men larger cubic space, good water-closets, and—in the larger ships—a hospital. The provision of good drinking water was insisted upon, as well as a diet scale and certificated cooks. All these the seamen now have, though they have had to wait years for them. Conditions are enormously improved to-day, and we have statistical evidence thereof in the annual report by Dr. A. A. Mussen, M.O.H. to the Liverpool Port Sanitary Authority, which is reviewed elsewhere this week. Dr. Mussen has a card index of the ships that visited that port in 1926, and prints a table showing the seamen's accommodation in 317 ships built before 1916 and in 316 built since. We need only refer in detail to the first group, made up of large cargo ships with white crews, 187 built before, 211 since 1916. In the 187 earlier ships 104 (55 per cent.) housed their crews only in the forecastle, 39 (20 per cent.) berthed them only aft. But in the 211 built since 1916, 39 only (18 per cent.) housed their men forward and 149 (70 per cent.) berthed them all aft. The benefit of the change is, in Dr. Mussen's words, "more room, ventilation and lighting better, less dampness and weather damage," and, we may add, far less misery in storms. But this taking of the seaman out of the forecastle is not all that has been done. Nearly all new ships have wash-places, two in every three ships have messrooms, half have hospitals, one in every four cubicles, and 7 per cent. baths. These are great advances, and there would appear to be a definite intention on the part of shipowners to afford to seamen in their ships comforts approaching those of their brethren on shore.

To some extent, we suppose, the shipowner did not know how badly off his seamen were, and for this reason we have made our recent endeavours to enlighten him. The Royal Sanitary Institute has inculcated similar lessons through expert advice, and the medical officers of health of Port Sanitary Authorities, who saw with their own eyes how sanitary standards afloat lagged behind those on shore, have told the same story from the medical standpoint. The Board of Trade, with no medical staff, has helped of recent times to improve seafaring conditions, deriving its knowledge of hygiene from the Ministry of Health and the Port Sanitary Authorities. There is real willingness, therefore, being displayed to give seamen the same advantages as those enjoyed by other citizens, and we look forward to a provision that plans of ships should be approved by the local Port Sanitary Authority before construction is begun, realising that ships are the dwelling-houses of those who sail on them. With improving conditions we may expect that the returns of deaths among seamen may be trustworthy, and regularly collated and published. The duty of the officers of the medical service in the mercantile marine has, on some of the ships employing a doctor, been carried on in distasteful and unpromising circumstances, even while in the large companies the necessary reforms have been long made. We review the conditions of this service on page 936, and draw attention to the opportunities which it offers. These doctors, by coöperation with the port medical officers, can help to keep alive the determination to raise the hygienic and sanitary standards on all our merchant ships.

JEAN NICOLAS CORVISART.

IN his inaugural thesis[1] on Corvisart and cardiology, which contains a portrait of this great French clinician, Dr. J. M. Lassus maintains that Corvisart, whose fame has been cast into the shade by his pupil Laënnec, was the founder of French clinical medicine at the dawn of the nineteenth century. He was first and foremost a cardiologist. Before his time it was only the anatomical lesions of pericarditis that had been carefully studied, and Sénac (1693–1770) alone had undertaken a systematic study of affections of the heart. In his work entitled "Essai sur les maladies et les lésions organiques du cœur" Corvisart emphasised the following facts: (1) the frequency of organic lesions of the heart; (2) the necessity of distinguishing functional disturbances from definite organic lesions; and (3) the necessity of having a cardiac symptomatology essentially founded on percussion, for which he was indebted to Auenbrugger. In his clinical account of what he called "Aneurysms of the Heart"—i.e., cardiac insufficiency—he was the first to describe the dyspnœa caused by exertion and the palpable thrill of mitral stenosis. But his work principally emphasises the importance of the following: (1) the distinction between hypertrophy and dilatation of the heart; (2) the occurrence of three successive periods in the course of cardiac insufficiency; and (3) the causal connexion between valvular lesions and cardiac failure. Lastly, in his insistence on the importance of comparing the symptoms found during life with the lesions present after death, Corvisart may be regarded as the founder of anatomo-clinical cardiology.

[1] Thèse de Paris, 1927, No. 348.

RELATIVE VALUES IN PUBLIC HEALTH WORK.

IN his inaugural address last week as President of the Society of Medical Officers of Health, Dr. James Wheatley, medical officer of health for Shropshire, put forward with vigour and eloquence a new conception of public health. We cannot afford, he said, to interfere with the health and vigorous development of the body and mind of a large proportion of the people in order to prevent a few accidents. Two instances he gave in illustration of this thesis were the freedom with which German children were allowed to swim in the Rhine, to the infinite advantage of their health and physique, although the casualty list might be considerable; the other, the routine removal of the newly born child from its mother's side to a cot, to avoid the occasional risk of overlaying, overlooking the risk to the welfare of the child of forfeiting the uniform warmth of the mother's body for the first three days of independent existence. The great importance of infant welfare work as at present conducted is, according to Dr. Wheatley, not so much the preservation of infant life as the production of a healthy adult population. The best guide to physical progress would be found, he is satisfied, in tests of physical fitness which, if made universal, would result in rapid advance of physical development and general health. To point his lesson further he took the recent work on the prevention of diphtheria and scarlet fever. Are we, he said, to Schick and Dick everyone? or are we to space and ventilate better and ever better so as to bring vital sunshine into our schools and homes, reserving these two tests and inoculations for emergencies and special conditions? That great sanitary reformer, Sir John Simon, noted nearly 70 years ago the possible danger of reducing disease while leaving the primary cause intact. Suppose, said Dr. Wheatley, dental caries could be prevented by the use of the toothbrush and it became possible by such an artificially short cut to abolish the disease, whilst leaving defective diet and wrong habits unremedied, would such eradication be a benefit or a calamity to the community?

Following up this thought, Dr. Wheatley went on to speak of the need critically to examine the advice of the consulting physician whose experience is entirely with sick and abnormal persons, and to emphasise the importance and lasting value of work which tends to improve the living of the ordinary individual. If open-air methods were advisable for the victims of our present bad hygienic conditions, how much more the need to provide open-air schools for the whole population of school age. The practical difficulty is that of heating, for any method which heats the air is rendered useless by the rapid change, and radiant heat is too unequal. The adoption of the open-air principle in school construction must depend, he said, upon the effective and economical solution of floor heating. Attempting to assess health factors in their relative importance, Dr. Wheatley put in the first place research in its widest sense. We are, he said, benefiting enormously at the present time through modern physiological research; inquiry into the causes of the fall in the death-rate from tuberculosis during the last 50 years is much overdue. Second in importance he placed the education of the people which, to be effective, would require a vastly improved system of health visitors and district nurses to give instruction in the homes. Antiquated restrictions on the nursing of infectious disease must give way to the modern view that a large proportion of ordinary ailments are infectious and that the spread of infection by nurses can be prevented by simple precautions. Incidentally he put in a good word for open-air bathing and sun bathing, the demand for which, he thought, would increase enormously in the near future. Dr. Wheatley concluded an instructive address by pleading for a wider conception of the position and responsibilities of the medical officer of health. Efforts to improve the defective and diseased person, good enough in themselves, must not take precedence over the general measures so vastly more important for the prevention of disease.

Dr. Wheatley did not give a new name to his teaching, but such a name has been supplied by Prof. Stan. Ruzicka, of Bratislava (Presburg) Czecho-Slovakia, who has just reissued a System of Hygiene[1] which attracted attention some years ago and which he calls "eubiotics." Dr. Ruzicka, who edits the Czecho-Slovak *Journal of Hygiene*, teaches that human life must be supported on physiological principles. Briefly, his remedy is to remodel cities so as to make them mere centres of business and public life to which workers will be conveyed each morning from their rural dwellings, returning at night to their own cottages, gardens, and farmyards, and in his pamphlet he contrasts in parallel columns the life of a family in the town with that of a family in the country with a minimum of 2000 square metres of cultivated ground. The chief difficulty he foresees, even in Czecho-Slovakia, is the cheap and rapid means of transport from the garden city to the business centres, a difficulty which would be vastly accentuated in any country where Nature does not provide a cheap method of producing electric power. Nevertheless, his system of eubiotics is worthy of more than a passing thought.

DISPENSARY TREATMENT OF TUBERCULOSIS BY ARTIFICIAL LIGHT.

THE treatment of tuberculosis by the various forms of artificial light has hitherto been carried out almost exclusively at residential institutions, or in the out-patient departments of the larger hospitals. In May, 1925, the Lancashire County Council decided that experiments should be carried out to determine whether ultra-violet ray therapy might be profitably employed in connexion with the county dispensary service. Experimental light centres were accordingly established at the Ashton-under-Lyne and Lancaster Dispensaries in the summer of 1925. An account of the methods employed, the types of cases treated, and the results of treatment at the two centres between the opening of the centres and the end of 1926, is included in an instructive report by Dr. G. Lissant Cox, central tuberculosis officer of the county. The experience of Dr. Cox and his colleagues suggests that the lamps most suitable for dispensary use are the long-flame carbon arc, the Jesionek mercury-vapour, and the Kromayer water-cooled mercury-vapour lamp, the two former being employed for general, the latter for local treatment. Of 150 patients treated at the Ashton Dispensary up to the end of 1926, who with few exceptions were suffering from tuberculosis of skin, glands, joints, or bones, it is claimed that 91 cases could be classed as "quiescent and apparently cured" after the light treatment. Dr. Stewart, the medical officer in charge of the centre, estimates that, but for the dispensary treatment, 60 of these would have been admitted for ordinary institutional care. A comparison of the estimated cost of the dispensary and institutional treatment has been made, and it is claimed that the dispensary treatment has resulted in a saving of no less than £850 for this group of patients, a striking figure when contrasted with a total initial outlay of £333 on plant. The best results from treatment have been obtained in cases of lupus and adenitis (with abscess formation and skin involvement). Of the former, 48 cases were treated at Ashton with 21 apparent cures, of the latter 29 cases yielded 26 cures. It is stated that many of the lupus cases had been under treatment "for so long as 20 to 40 years prior to commencing light treatment." The tables setting out the results of treatment include six cases of "bronchial glands," presumably the seat of active tuberculous disease. After treatment with carbon-arc lamps three of these were stated to be "quiescent, apparently cured." A further comment

[1] From the author, Hygienic Institute, Bratislava.

is made that "cases of bronchial gland tuberculosis have done very well, and the X ray evidence tends to support the view that the light has had a favourable effect, although one is naturally cautious in drawing any definite conclusions, as it is possible the improvement might have taken place without the light." Now it is notorious that the diagnosis of tuberculous infection of the tracheo-bronchial glands can seldom be made with any degree of certainty. To determine by means of X rays or physical examination that an active lesion in this situation has become quiescent is in the present state of knowledge impossible. It is, therefore, undesirable to include statistics for a disease which can only be suspected, in tables devoted mainly to surgical tuberculosis of which the diagnosis is usually patent. A further assertion to the effect that "tuberculous eye conditions seem to respond very well to general treatment" is unsupported by evidence. Although one case of phlyctenular conjunctivitis is reported as cured, the assumption that this condition is tuberculous is not warranted.

We recommend all those whose work brings them into contact with the tuberculosis service to read Dr. Cox's report on the results obtained in the course of an interesting and very hopeful experiment.

THE LONGEVITY OF CRICKETERS.

IT is a deep-rooted belief that first-class athletes tend to die relatively young, but Mr. A. Bradford Hill, D.Sc., in a study from the National Institute for Medical Research (which appears on p. 949) shows that this belief is not well founded as far as cricket is concerned; a strict analysis based upon data in Wisden's "Cricketers' Almanac" makes it clear that cricketers are long-lived in comparison with the general population. Dr. Hill is here dealing only with cricketers of British nationality born since 1888, and his analysis terminates in 1913 in order to avoid the disturbing influence of the years of war. Taking his analysis a little further Dr. Hill finds that amateurs have a slight advantage over professional players in regard to longevity, the explanation no doubt being that while the amateur shares with the professional the advantage of physical selection he has in addition the benefit, as regards length of life, of social selection. The statistical analysis on which Dr. Hill's conclusions are based, although far more complete than any which has hitherto been made, was foreshadowed by figures given by a cricket enthusiast, Mr. Frederick Gale, some 45 years ago. Mr. Gale followed up the life-history of the so-called "B" eleven chosen by Lord Frederick Beauclerk to play against All-England. Of these 11 men the youngest died at the age of 69, while the others lived to various ages up to 95. In commenting on these figures Mr. Gale remarked that insurance offices would grow rich if no lives but those of cricketers were taken. It is not without interest that at the lecture in which Mr. Gale conveyed his observations, which were published at the time in our columns, the chair was occupied by Mr. Ruskin, then Slade Professor at Oxford.

SHELL-FISH SANITATION.

THE outbreaks of enteric fever and other gastro-intestinal complaints which have been traced from time to time to the consumption of shell-fish have seriously affected the prosperity of this industry in America. A conference held in Washington in February, 1925, led to the formulation of a scheme, described[1] by Mr. L. M. Fisher, a sanitary engineer in the U.S. Public Health Service; this scheme is promoted alike by the representatives of the health and commercial interests. The chief responsibility is thrown on the individual States, coördination and uniformity being secured by mutual agreements between the States with the help and advice of the Federal service. Under the scheme the shellfish-producing State examines the water, prohibits shell-fish being taken from unsafe water, gives licences for taking the shell-fish, inspects the marketing, packing, and shipping arrangements, and issues certificates to shippers who have complied with the State regulations. The State certificates are submitted to the Federal service, which, if satisfied, adds the name of the certified shipper to a list which is sent out twice a month to the health authorities in the various States. The success of the scheme depends upon the effectiveness with which the health authorities of the shellfish-consuming States admit to their markets only shell-fish which come from properly certified shippers. Mr. Fisher's article deals with other matters affecting the industry. Oysters thrive in a mixture of fresh and salt water, and the importance of the industry has in some cases led to the protection of estuaries from sewage pollution. The transfer of "seed" oysters from polluted waters to clean areas for development and maturity is mentioned as a danger, and the similar transfer of mature oysters as a still greater danger. In order that the oyster may free itself from impurity the temperature of the water must not be below 60° F., as a lower temperature interferes with the activity of the oyster, and prevents it cleaning itself. The examination of the water of the beds at frequent intervals is possibly a more reliable guide to safety than the examination of a certain number of the oysters. The practice of "fattening" oysters by removing them for short periods to fresher water and thus promoting osmosis brings added risk and has been prohibited by most of the oyster-producing States. The experiments which have been made to clean oysters by the use of chlorinated water have not so far met with approval and are compared to the "practice of pasteurising dirty milk." Mr. Fisher points out that there is a tendency amongst some of those engaged in the industry to make too much of the certification scheme as if it were an absolute guarantee given by the State and Federal governments, whereas the certificates refer only to the source of the oysters and the manner of packing at the point of origin. No responsibility is assumed for what happens to the oyster in its passage from the original shipper to the consumer. The progress of the scheme will be watched with much interest. In the past the careful conscientious oyster man has suffered from the doings of the less scrupulous producer. It is obviously of the utmost importance to the industry that the confidence of the public should be won.

[1] Public Health Reports, Sept. 16th, 1927.

ANOREXIA AND MALNUTRITION IN CHILDREN.

THE views expressed at a recent meeting of pædiatrists in Washington[1] suggested considerable divergence of opinion on the best way of combating anorexia and malnutrition in children. Dr. C. A. Aldrich, giving an account of his method of avoiding anorexia, and the theory on which it is based, laid stress on the distinction between hunger (a purely physiological function) and appetite, "a much more complex mental process dependant on pleasant memories of feelings, tastes, odours, and sights." The former, he said, merely initiates the taking of food; the latter controls the amount eaten. Transitory anorexia being usually the first symptom of an infection, whilst chronic anorexia results from the displeasurable feelings aroused by attempts to force the child to take food. Dr. Aldrich's invariable rule is to allow the child—even during infancy—to regulate the quantity of its feeds "with appetite as a guide." The success of this practice was shown by answers to a questionaire circulated to the parents, for it was found that on the average the children so treated were 3·6 lb. heavier than the normal for their age. In those who were under weight a definite physical cause for malnutrition was usually present. That there is much to be said, on empirical grounds, for Dr. Aldrich's line of treatment will be readily conceded

[1] Jour. Amer. Med. Assoc., Sept. 17th.

by many observers, though not all will admit the validity of the hypothesis on which it is based. His remarks seem to apply to children of all ages, expressly including infants on the bottle; and that so complex a mechanism as "appetite," according to his definition, should govern the quantity of food taken in infancy is an idea that will be accepted by few psychologists at the present day. Dr. L. W. Sauer described a routine treatment of underweight children of various types (excluding sufferers from diabetes and some special diseases) which is based on lines diametrically opposed to those advocated by Dr. Aldrich, and consists of a course of forced feeding lasting for three months and combined with periods of rest in bed. A five-meal diet is prescribed; afebrile children are started on an allowance of 40 calories per lb. of actual weight, which is raised until it approximates 40 calories per lb. of the theoretical weight for the height and age. Even vomiting is not regarded as a contra-indication. The results tabulated by Dr. Sauer show a gain of weight which is as striking as the rise in Dr. Aldrich's cases. His patients were of ages ranging from 5 to 12, and the psychological aspect of "appetite" might have been expected to play a more important part in their nutrition than in that of the series first described.

SANE ENOUGH FOR SENTENCE.

AT the recent Bedfordshire Assizes an inmate of the Three Counties Mental Hospital at Arlesey was convicted and sentenced for assaulting one member of the hospital staff and threatening another. In passing a sentence of two months' imprisonment the judge announced that he should assume that the accused man was sane. Possibly on this occasion the law was tempering justice with mercy; two months' detention in a normal prison is regarded as a lesser penalty than confinement for an indefinite period at Broadmoor as a criminal lunatic. Nevertheless, it certainly suggests that there must be something wrong with the law when an asylum inmate is sentenced as a sane man. This and other incidents raise the old disquieting doubts whether the law courts do not sometimes deliberately ignore the medical history of accused persons instead of obtaining the utmost possible information before passing sentence. The latest annual report of the Prison Commissioners contained some remarkable revelations of the tendency of certain magistrates to sentence a man first and to inquire into his mental condition afterwards. Persons, it appears, are not infrequently convicted and sentenced who are certified insane on their arrival in prison. A few months ago the Court of Criminal Appeal reaffirmed its rule of refusing to hear any fresh medical evidence in cases where the state of the accused's mind is a ground of appeal. The case of George Jordan, to which a correspondent draws attention in another column, seems to suggest the same attitude of judicial indifference to matters which, after all, may be as relevant to the issue of "guilty" or "not guilty" as any matters can be.

If the facts in Jordan's case are correctly stated, he was sentenced to 18 months' imprisonment by a court which did not adequately inform itself of his medical history and condition, and he was certified insane soon after he began to serve his sentence. If so, he was stigmatised as a criminal without sufficient consideration of his right to have the defence of insanity raised on his behalf. He recently committed suicide, and the coroner (Mr. Arthur H. Emanuel, of Southampton), having apparently access to medical evidence which must have made all the difference if it had been available in the criminal court by which Jordan was sentenced, observed that the case was one of the hardest and saddest in his experience. "By reason of his war service this man underwent injuries which made him assume the attributes of a criminal, whereas he was a splendid, honest man; for the sake of his wife and children some sort of representation ought to be made to the Home Secretary to remove the stigma of his having been made a criminal." When Parliament reassembles some Member will doubtless inquire of the Home Secretary what has been, or is proposed to be, done. The case looks like one of those which divide medical and legal opinion. The medical profession detects a series of symptoms which culminate in the climax of legal insanity; the symptoms and the climax are all stages of one disease; looking back upon the history of the case the supposedly criminal act is seen to have been the act of an insane man. On the other hand, the law courts and the Home Office will not admit that the earlier stages of mental disease can be accepted as lessening the criminal responsibility of the accused. The guardians of our penal system will not surrender the deterrent value of the hangman or the prison cell so long as the accused person has a lucid moment in which he can thereby be deterred. A kind of rough-and-ready give-and-take between the medical and the legal views is accepted by the public because it is believed that the legal view is applied with the utmost humanity and with full and enlightened use of the best medical information. If cases occur in which humanity is offended and medical information is ignored, the public may be roused to a sense of the limitations of the legal view.

COLOUR VISION.

A COMMITTEE of the British Association, consisting of Sir Charles Sherrington, Prof. H. E. Roaf, Dr. Mary Collins, and Dr. F. W. Edridge-Green, have issued a report on colour vision, with particular reference to the classification of colour-blindness. Any reference, implicit or explicit, to any theory of colour-blindness is carefully excluded, and it is recommended that the terms protanopia, deuteranopia, and tritanopia be abolished. Colour-blindness is defined as any marked decrease in sensitivity to a special region of the spectrum—e.g., to red—and it is recommended that if possible the precise wave-lengths involved should be specified. Failure to discriminate colours should be described not as colour-blindness, but as colour confusion—the number of distinct colours which are recognised in the spectrum being a rough measure of the degree of colour discrimination. All those persons who recognise only two colours in the spectrum possess a neutral region in which no sensation of colour exists. Its position and extent should be determined.

HOSPITALS AND MOTOR ACCIDENTS.

ALMOST every hospital in the country is faced by more or less serious difficulties as the result of the steadily increasing number of accidents caused by motor traffic. Sometimes it is the occupants of the cars who are injured, often seriously; sometimes it is the unlucky pedestrian who suffers. Whichever it is, the result is the same for the nearest hospital. However acute the difficulty of finding room, the sufferer has to be taken in and tended; the general experience is that, on the average, he occupies a bed for a longer period than the ordinary patient; and his presence may delay the reception of a patient who has been waiting for admission, perhaps for months. This is the human side of the problem, but there is also a serious financial side. More often than not these sufferers from motor casualties make no offering to the institution that has put them on their legs again, and the companies in which they are insured refuse to pay anything on the ground that hospitals are voluntary institutions and are therefore unable to sustain a claim at law. Obviously the situation cannot be left there, and the hospitals, in self-defence and in the interest of those who have what may fairly be described as the first claim upon them, will be compelled to find some means of self-protection. The Norfolk and Norwich Hospital, the waiting-list of which is being heavily encumbered by the results of motor accidents, seems to have found an ingenious

way out. A recent meeting of the governing body was reminded that a private practitioner, to whose surgery the victim of a motoring accident is taken, can send in a bill for his services, and it was pointed out that the hospital could place itself in the same position by sending all such cases to the new paying ward which is to be opened early next year. Whether the authorities of the Norfolk and Norwich Hospital have taken legal advice on the subject is not stated, but it is difficult to see how the motor insurance companies could repudiate a liability incurred by their insurers towards a body which is entitled to make, and notifies that it will make, a charge. The companies declare that if they accepted a liability towards the hospitals they would have to increase their premiums, but that seems very much like an admission that their beneficiaries are obtaining advantages for which they have not paid. The action of the Norfolk and Norwich Hospital, supported as it will probably be before long by other institutions, seems to point to the natural solution of a problem which of late has gravely increased the difficulties, both of means and accommodation, of the voluntary hospitals.

CLINICS FOR INDUSTRIAL RHEUMATISM.

AT the Annual Conference of Insurance Committees, held at Harrogate last week, Mr. Henry Lesser, LL.B., on his induction into the presidential chair, expressed the hope that national health organisations would coöperate in the treatment of rheumatism as seen in present-day industrial life. Approved societies, he remarked, have no power to make grants towards the cost of out-patient treatment of their members at hospitals; the Ministry of Health should allow the societies to assist their members by grants for hydrotherapeutic treatment, to count as additional benefit under the Insurance Acts. He quoted Sir George Newman's statement that the institutional treatment of arthritic patients was no longer merely an Utopian ideal; the concentration in an institution, properly equipped for research, of young patients with rheumatoid arthritis at an early stage could hardly fail to increase our present knowledge of the disease. Mr. Lesser set out the scheme promoted by the British Committee of the International Society of Medical Hydrology for the establishment of an experimental clinic for rheumatic diseases in London, and noted the proposal of the British Red Cross Society shortly to launch an appeal for £40,000 to found such a clinic, which if successful would be followed by the establishment of similar clinics in other parts of the country. Mr. Lesser based his remarks upon his recent tour of out-patient clinics for rheumatism in central Europe, where the field of investigation far exceeds anything yet attempted in this country. Although he failed to obtain statistics of the results achieved, he gained the impression that all the parties concerned—patients, physicians, employers, insurance officials—were agreed on the advantages to be derived from hydrotherapeutic treatment on those lines.

THE HARVEIAN CEREMONIES.

DURING the week of the Harveian Festival the President and Council of the Royal College of Physicians of London attended Bow Church, Cheapside, to hear the sermon preached annually under the Sadleir Trust, the preacher being the rector, the Rev. Gordon Ponsonby. The address formed a beautiful supplement to Sir William Hale-White's Harveian oration, which was printed in full in these columns last week, for he took as his theme the achievements of the Fellows of the College, who had died during the year, and whose lives had been dedicated to the progress of medicine along the many accessible paths made by Harvey's wisdom. In the evening a dinner was held within the College; the Speaker of the House of Commons (the Rt. Hon. J. H. Whitley), the President of the Royal Academy (Sir Frank Dicksee), the Secretary of State for Air (Sir Samuel Hoare), Prof. A. V. Hill (the recipient of the Baly medal), and other distinguished guests were present. Sir Samuel Hoare, in responding to the toast of the guests, made eloquent reference to the vast influence upon civilisation brought about by the strides in international communication, of which aerial transport was so notable an example.

THE annual dinner of the Royal Society of Medicine will be held at the Hotel Victoria, Northumberland-avenue, on Wednesday, Nov. 16th, at 7.30 for 8 P.M. Lord Darling will be the Society's guest of honour.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Comdrs.: S. F. Dudley to *President*, for R.N. College, Greenwich (Naval Medical School), as Professor of Clinical Pathology and as Specialist in Bacteriology; H. St. C. Colson to *Pembroke*, for R.N. Hospl., Chatham, and as Specialist in Bacteriology; G. F. Syms to *Victory*, for Portsmouth Dockyard; M. J. Aitken to *Calypso*; R. Lyon to *Berwick*; H. Wilks to *Cumberland* (on commg.); and F. J. D. Twigg to *President*, for three months' post-graduate course.

Surg. Lt.-Comdrs.: C. H. Savory to *Erebus*; R. P. Ninnis to *Vulcan*; T. N. D'Arcy to *Spenser*; and A. W. McRorie to *Ganges*, for R. N. Sick Quarters, Shotley.

Surg. Lts.: E. T. S. Rudd to *Columbine*, for R.N. Hospl., S. Queensferry; T. G. Davies to *Cumberland* (on commg.); C. G. Rippin to *Impregnable*; and G. Kirker to *Verbena* (on commg.).

ROYAL NAVAL VOLUNTEER RESERVE.

*Prob. Surg. Lt. W. F. Lascelles to be Surg.

ROYAL ARMY MEDICAL CORPS.

Col. V. J. Crawford, late R.A.M.C., retires on retd. pay.

Lt.-Col. & Bt. Col. J. A. Hartigan, K.H.P., from R.A.M.C., to be Col.

Lt.-Col. W. M. H. Spiller, having attained the age fixed for compulsory retirement, retires on ret. pay.

Majs. P. C. T. Davy and G. A. D. Harvey to be Lt.-Cols.

The undermentioned Lts. (on prob.) from the secd. list, are restd. to the estabt.: F. McL. Richardson and J. W. Eames.

ARMY DENTAL CORPS.

Temp. Lt. J. B. Cowie, Dental Surg., Gen. List, to be Lt.

REGULAR ARMY RESERVE OF OFFICERS.

Lt.-Col. W. M. B. Sparkes, having attained the age limit of liability to recall, ceases to belong to the Res. of Off.

TERRITORIAL ARMY.

Lt. A. H. MacC. Eaton to be Capt.

General Hospitals.—Maj. R. M. Handfield-Jones resigns his commn.

ROYAL AIR FORCE.

Flying Officer B. L. Edwards is granted a permanent commission in this rank.

Flying Officer H. Penman is promoted to the rank of Flight Lt.

INDIAN MEDICAL SERVICES.

Lt.-Col. A. C. MacGilchrist retires.

Capt. Abdul Hamid Shaikh to be Maj.

The undermentioned officers relinquish their temp. commns.: T./Lt. Tharmale Govinda Raghava Panikkar and T./Lt. Amar Nath Bajaj.

Lt.-Col. J. Cunningham, Directeur, Pasteur Institute of India, Kasauli, has been placed on special duty in connexion with the Seventh Congress of the Far Eastern Association of Tropical Medicine. The services of Lt.-Col. H. H. Thorburn, Agency Surgeon, have been placed at the disposal of the Government of India, Education Department. Maj. H. E. Murray, Second Resident Surgeon, Presidency General Hospital, Calcutta, has been appointed First Resident Surgeon of the Institution.

Army instructions issued in September notify the abolition of the Central Dermatological Laboratory at Poona from March 31st, 1928. In future its work will be done locally by the Principal District Laboratory in each command—viz., Rawalpindi, Quetta, Meerut, and Secunderabad.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

CCXLVII.

THE TREATMENT OF PERFORATING INJURIES OF THE EYE.

A PERFORATING injury of the eye must always be looked on as a serious surgical emergency and treated under the best conditions possible, since any temporising or inexpert care involves the risk not only of loss of the injured eye, but also of one of the most tragic of possibilities, the onset of sympathetic ophthalmia causing destruction of its fellow. The treatment of perforating injuries as usually adopted can only be dealt with by considering in the first place the diagnosis and classification of such injuries. The subject is large and only the broad principles which guide the procedure of the ophthalmic surgeon can be indicated, since in actual practice each case is different and must be judged on its merits.

Classification.

Cases of perforating injury fall into two groups: 1. Those in which the globe is perforated by a blunt or sharp instrument, but there is no retention of a foreign body within the eye. 2. Those in which a foreign body remains within the eye. Both these groups can be subdivided on an anatomical basis, according to the position of the wound and of the foreign body. The question of diagnosis arises when from the history it seems likely that a foreign body is present. The settling of this question is of the utmost importance in treatment and prognosis.

Diagnosis of Intra-ocular Foreign Body.

The presence of an intra-ocular foreign body may be extremely hard to detect. Occasionally it may be directly seen in the anterior chamber or with the ophthalmoscope, but this is rare. There are four further sources of evidence which can be tapped—namely, radiography, examination with the magnet, biomicroscopy with the slit-lamp, and the history of the accident.

Radiography.—If the foreign body is opaque to X rays it can be photographed, and by the application of Mackenzie Davidson's method can be accurately localised, with a margin of error of less than one millimetre. Fortunately, the majority of intra-ocular foreign bodies are metallic and can therefore be detected. Even lead glass fragments may be localised, but the lighter forms of glass are transparent to the rays.

Examination with the Magnet.—If the foreign body is magnetisable its presence can be detected by means of the Haab or Mellinger magnet. The patient usually feels pain in the eye when the current is switched on, if the foreign body is attracted, and in a number of cases—sometimes only after repeated switching on and off—it can be drawn forward into the anterior chamber and thence extracted.

Examination with the slit-lamp is of assistance in cases where the perforation is very small and there has been no loss of aqueous, or obvious hæmorrhage into the anterior chamber. By its means it is possible to make out with certainty whether a small deep injury to the cornea has actually perforated or not, and whether there has been the slightest trauma to the iris. In some cases the track of a minute foreign body through the lens can be detected before the lens fibres begin to swell up.

The *history* should be very carefully taken, as it will often throw light on the possibility of an intra-ocular foreign body. For example, in the case of an injury received while chipping stone with a hammer there is very likely to be a fragment of steel in the eye, while a blow from a large iron nail or bolt, though perforating, is not often accompanied by retention of any metal.

Treatment of Perforating Injury without Retention of a Foreign Body.

(*a*) Wounds involving the *cornea* only are the simplest to treat, since, if sterile, they heal spontaneously. The eye should be well washed out, atropine instilled, a bandage applied, and the patient kept at rest. A watch must be kept for the onset of sepsis, and if this supervenes the treatment of infected ulcer of the cornea must be carried out (see Modern Technique in Treatment, Corneal Ulceration, by P. G. Doyne).[1]

(*b*) Wounds involving the *iris and ciliary body* are more dangerous since the risk of sepsis or of sympathetic ophthalmia is much greater. The iris or ciliary body or both may be prolapsed through the wound and operative treatment then becomes imperative. A general anæsthetic is usually necessary, since it allows of more thorough examination and more efficient toilet of the wound. The patient is already in pain and any manipulation of the irritated iris may be felt even after the instillation of cocaine. The eye is well washed out with a solution of perchloride of mercury, 1 in 12,000. The lids are retracted, taking care that there is no pressure on the globe, and the wound is examined. Any prolapsed portion of uveal tissue is freed from the edges of the wound and cut off. On no account must any attempt be made to replace such tissue inside the eye since it is most certainly infected. In a certain number of cases there is already pus in the anterior chamber when the patient is first seen. Although the prognosis is then bad an attempt to save the eye may be made by washing out the anterior chamber with peroxide of hydrogen. In some cases this is successful. In cases not obviously infected, if the wound is large and involves the sclera or limbus, it may be sutured with fine silk, but this is seldom necessary. In most cases, however, it is as well to cover the wound in the sclera with a small flap of conjunctiva. Atropine is instilled freely.

In all cases the eye must be carefully watched for the following complications: (1) Sepsis, as evidenced by either an iritis which may yield to treatment or a panophthalmitis which will result in loss of the eye. (2) Formation of anterior synechiæ. These are very common and extremely difficult to avoid after excision of prolapsed iris through a corneal wound. They interfere considerably with the healing of the wound, keep up irritation in the eye, and are a source of danger. They are usually divided as soon as practicable. (3) Appearance of plastic irido-cyclitis with keratic precipitates (k.p.). This is a danger-signal and if it appears the eye must be excised, since the risk of sympathetic ophthalmitis is extremely great. If the lens is injured the risk of loss of the eye becomes greater, especially in children. The lens fibres swell up when brought in contact with the aqueous and press the iris forwards on to the cornea. The tension of the eye then rises and a curette evacuation of the softened lens is called for.

(*c*) When wounds involve the *sclera* and *vitreous* behind the ora serrata there is usually a wound of the lid as well, and the swelling resulting from this may be so great as to make examination of the eye very difficult. If so a general anæsthetic should be administered and a thorough exploration carried out. There will probably be much subconjunctival ecchymosis around the scleral wound, masking it. Vitreous, choroid, and retina may be seen protruding from it, in which case they should be cut off. Suture of the sclera and formation of a conjunctival flap is usually desirable.

Whenever an eye is so grossly injured that restoration of useful vision is improbable it should be excised, as the risk of retaining it outweighs the possible slight advantage.

[1] THE LANCET, July 16th, 1927, p. 133.

Treatment of Perforating Injury with Retention of a Foreign Body.

Once the diagnosis of intra-ocular foreign body has been made the question of its removal must be considered. If it is in the anterior chamber or if it is magnetisable and can be drawn forward attempts are made to remove it. The hand magnet is invaluable in these cases, being used to remove the foreign body through the wound of entry or through a corneal incision after it has been drawn into a favourable position by the larger magnet. It is of great importance that attempts at removal should be made as soon as possible after the injury, since the foreign body will very soon become involved in exudate and fibrous tissue from which it may be very difficult to stir it. If it is non-magnetisable or cannot be located its removal may be impossible. The prognosis is, however, much worsened by its retention. Very minute foreign bodies may become encapsuled and cause no trouble, but more often, though sight may be good at first, a slow degeneration of the eye sets in which finally renders it useless. In the case of retained iron the process is accompanied by solution of the iron and deposition of it in the uveal tract and on the lens (siderosis).

It is obvious that, apart from the question of the practicability of the removal of the foreign body, the most important point is the cleanliness or otherwise of the fragment. Pieces of metal are often hot when they fly into the eye and are more likely to be sterile than other substances, such as stone or wood splinters. These latter are very apt to give rise to suppuration, which may destroy the eye even though the foreign body has been removed. The prognosis is also worse if the lens has been injured. In such cases a second operation (curette evacuation) may be necessary to relieve the tension due to the swelling of the lens. Sometimes the foreign body is discharged with the lens matter at this operation.

Prophylaxis of Sympathetic Ophthalmia.

It is obvious that if an eye is so grossly injured that no restoration of function can be hoped for it should be immediately excised. When, however, attempts are made to save an injured eye a strict watch should be kept on it for many weeks. In the diagnosis of early sympathetic ophthalmia the slit-lamp is invaluable. It will reveal the earliest traces of k.p. in the exciting eye and will also render visible those fine changes in the anterior vitreous which precede the appearance of cyclitis in the sympathising eye. If regular examinations of both eyes are made the approaching danger may be seen and dealt with relatively earlier than was previously possible. It is also as well to do a differential blood count in suspicious cases, since a rise in the percentage of large mononuclear cells is found in most cases of sympathetic ophthalmia. The grosser signs—persistence of pain, lacrymation, and ciliary flush in the injured eye—are easily detectable, and if the eye has no useful vision it should, of course, be excised without waiting for the appearance of cyclitis.

IDA C. MANN, M.B. Lond., F.R.C.S. Eng.,
Assistant Surgeon, Moorfields Eye Hospital; Ophthalmic Surgeon, Elizabeth Garrett Anderson Hospital.

BIRMINGHAM HOSPITALS CONTRIBUTORY SCHEME.—This scheme will come into operation on Jan. 1st, 1928. The minimum contribution will be 2*d.* per week per person, and employers will be asked to pay at least 25 per cent. of the amount contributed by their employees. The hospitals will be open free to the very poor who are unable to join the scheme; persons of limited income will be eligible for free treatment if they belong to the scheme; contributors not considered eligible for free treatment may be called upon to make some additional payment. There will be a maintenance charge for non-contributory patients who can afford to pay 2*d.* per week, and hospital and convalescent home benefit will be extended to actual dependents of contributors. The Hospital Saturday Fund will be the principal branch industrial contributors' scheme for employers and employees.

Special Articles.

THE PANEL CONFERENCE.

THE annual conference of representatives of local medical and panel committees was held on Oct. 20th in the Great Hall of the British Medical Association's House, when Dr. E. K. LE FLEMING (Dorset) occupied the chair, and the proceedings opened with a tribute to the memory of Dr. T. Ridley Bailey. After some domestic business had been transacted, Dr. H. G. DAIN (Birmingham), Chairman of the Insurance Acts Committee (I.A.C.), moved that the conference approve the

Proposed Modifications in Disciplinary Procedure

upon which his committee had provisionally agreed with the Ministry of Health. He pointed out that there were two ways of dealing with the question of discipline: first, by agreement with the Ministry, and secondly, by the usual legal machinery. He understood that, if the profession were very strongly in favour of going to the courts to settle alleged breaches of contract, the Ministry would not offer any great objection. That would get rid of the final decision of the Ministry without appeal—the great bogy of the profession. But it would also mean the publicity of the courts in all cases. If the profession preferred the method of disciplinary machinery inside the service, then—said the Minister (and the speaker sympathised with him)—they ought to accept the Minister's final decision. In any case the Minister was unwilling to accept the liability of being summoned to appear in court for any decision he made (a very reasonable refusal, Dr. Dain remarked). He could not prevent an appeal on the ground of irregularity or an action ultra vires, but he was not prepared to consider any appeal on the merits of the case.

In the view of the I.A.C., Dr. Dain continued, the chief disadvantage of the existing machinery was the presence of a certain gap, which they had not expected when it was first set up—an interval during which they had no knowledge of the proceedings. They had provided that cases should be heard in a certain way with certain methods of appeal, and that in the end the Minister should have the decision; but they did not know what happened between the hearing of the case by the Medical Service Subcommittee or the Committee of Inquiry and the Minister's decision. They were not aware how the Minister made up his mind, and had no control over nor knowledge of the stages between these two events. When the scheme was initiated there had been no Ministry of Health; there had been National Insurance Commissioners, who would, the Committee had been assured, themselves deal with the reports in disciplinary cases; this method the Committee had been prepared to accept and would be prepared to continue. The head of the department, however, had so many duties that he had to delegate some of them, and the Committee thought that that was the chief disadvantage of the present scheme. He hoped that the conference would find that the suggestion he was about to put before them would bridge over that gap. It provided for the association of the panel practitioner with the machinery from the beginning until the final recommendation upon which the Minister acted. The duty of the Committee's representatives would be to see that fair play was given at every stage of the proceedings. The new scheme would provide for what Mr. Lloyd George called "the judgment of the doctor by his peers." At no stage would a civil servant alone be empowered to deal with a case.

Time Limit for Complaints.

Dr. Dain went on to outline the existing procedure step by step, and to explain the effect of the suggested modifications. To begin with, he said, the limit fixed

by the regulations on the time which might elapse between the alleged breach of contract and the lodging of a complaint about it was in certain areas almost entirely disregarded. That meant that an insurance committee officer who was hostile to the medical point of view or the medical service might find some reason for having the case heard at almost any date. If the conference accepted the report he laid before them, it would become an established fact that the Medical Service Subcommittee might investigate any complaint made between six and eight weeks after the act, but that the consent of the Minister would be necessary if the interval were longer than two months, and the Subcommittee would have to satisfy him that there existed reasonable grounds for the delay. The doctor would have an opportunity of objecting to the extension, and would be in the same position relative to the Minister as the Medical Service Subcommittee. That, in Dr. Dain's opinion, adequately safeguarded the position.

Again, in some areas, complaints against doctors had been couched in very vague terms, and fresh causes of complaint had been admitted during the hearing; the doctor had accepted the position. The Ministry had agreed to inform insurance committees that complaints should be as specific as possible. While the conference might be disappointed that this was not made a definite regulation, they would see the inadvisability of pressing to have it made absolute, which would mean in most cases that the clerk to the insurance committee would have an interview with the patient or society complaining in order to find out exactly what the complaint was. This would put him in a position to hear the case with nobody there and to ask any questions he wished, and this might result in much more serious charges being made than had at first been intended.

Position of the Clerk at the Hearing.

There were, unfortunately, clerks who considered it their business to act as prosecuting counsel. This was, of course, an entirely irregular procedure, and could only happen with the consent of the doctors sitting on the committee. The doctors were there to see fair play and if they did not prevent this no regulations could. It was for the panel practitioners to replace such members of the committee with others who had a better appreciation of their duties. There were circumstances in which the clerk might consider himself entitled to act in this way; for instance, when the complaint was made by the Medical Benefit Subcommittee or the Insurance Committee itself. The Ministry had agreed that insurance committees should be told that this procedure was unsatisfactory and that the clerk should only act in the manner prescribed.

Other areas had submitted reports which had never really been properly considered by the Medical Service Subcommittee. This again could only happen with the consent of the Subcommittee. In his own area all reports were submitted to the members present, and if a majority disapproved they were reconsidered. The Minister agreed that the best shorthand notes available should be taken, and that the report should be approved by the Subcommittee.

Powers of Insurance Committees.

Under the regulations the Insurance Committee might do one of four things on the report of the Medical Service Subcommittee: they might remove the patient, limit the list, recommend deduction of money, or advise the deletion of the doctor's name from the panel. The new scheme proposed to give them the additional power of censuring the doctor. Whereas now they often felt themselves bound to make representations, if they could warn, caution, or censure a doctor they might not need to recommend in many cases that money should be withheld.

When the Insurance Committee had considered a case and made a recommendation, the papers went to the Ministry, and the respondent was advised of the finding, furnished with the report of the Medical Service Subcommittee, and told that he might appeal, if he wished, within a given time. Up to now any appeal had been heard by one or two officers of the Ministry; the Minister had now agreed that in future a doctor nominated by the I.A.C. should be associated with those officers to hear the appeal. Dr. Dain reminded his hearers that, like all appeals in law, this appeal was a reconsideration of the evidence already heard and not a rehearing. If, on the other hand, the respondent did not appeal, he was told at the end of the month that the Minister was considering the report of the committees and perhaps contemplating a money deduction. He might then make a representation in writing or orally; if he chose the latter, officers of the Ministry were sent down to his area. The I.A.C. had now arranged that a doctor nominated by them should be present at that hearing.

New Joint Advisory Committee.

The Ministry, having all the reports in hand, now considered what should be done and what the final decision should be. This was where the new body came into operation. All cases at issue would in future be referred to what was called a Joint Advisory Committee, which would consist of the chief and two other medical officers of the Ministry and three doctors chosen from a panel which the I.A.C. would themselves nominate. That body would consider the reports of the Medical Service Subcommittee and the Insurance Committee and the respondent's oral representation, or the findings of the court of appeal, and would advise the Minister as to the action he should take. In promulgating his decision he was not, of course, compelled to accept the findings of this body, but as a matter of practice and business he was inevitably bound to accept them. If he did not, then the scheme had failed, and it would be necessary to find some other method of dealing with the disciplinary machinery.

Other cases were heard by a Committee of Inquiry, which sometimes recommended that a doctor should be removed from the panel. It had been said that the functions of that committee were improperly curtailed and that it had no power to hear certain evidence. That was untrue, and the committee could hear any evidence it saw fit to entertain. The admission of improper evidence was ground for appeal from this court as from any other, but it was presided over by a barrister who was always, in Dr. Dain's experience, very careful. The Committee of Inquiry advised the Minister of the facts found and the inferences to be drawn from them, but made no specific recommendation about the penalty. The only punishment provided was removal from the panel, but there had been cases in which the evidence had not been conclusive enough to warrant removal, although the Minister had withheld the grant. It had been decided last year that the Minister should not inflict a lesser penalty without a rehearing of the case before the Advisory Committee. The Minister would use the Advisory Committee for the major question as well. As a matter of experience, the I.A.C. was not aware of any case in which the Minister had ever removed a doctor from the panel against the weight of evidence.

These, then, said Dr. Dain, were the chief alterations which the I.A.C asked the conference to approve in the disciplinary machinery. If they approved of them, his committee considered that they should definitely undertake to forego, for a period of years, any right to modify them or to appeal to the courts. The scheme had its disadvantages, but seemed fair and just from beginning to end, and was worth a trial. If it worked fairly, they would be better off, both in the public estimation and financially.

Minor modifications were the limitation of the Minister's power of initiating complaints to cases of alleged failure to keep adequate medical records, to return Form R.2, and to report on tuberculosis cases. He could now order an inquiry without receiving a

representation only when a doctor had already been convicted of a felony.

The work of the new committee would be confidential, but it would be the duty of its members to see that nothing unfair was done, and to refuse to admit unfair evidence. If things happened of which they disapproved, their method would be to come back to the Insurance Acts Committee and resign. That committee would then have to admit that the scheme was unsuccessful. Until that happened, however, provided that they selected the proper representatives and the committee functioned properly, the result would be a machinery free from any possibility of abuse and satisfactory to the men working under the National Insurance scheme.

Discussion.

The proposed scheme aroused considerable discussion, but none of the amending motions was carried, and many of them were withdrawn after the conference had heard the explanations of representatives of the committee. The recommendation was finally passed as proposed. Criticisms showed considerable distrust of a scheme which did not allow for a final appeal to the courts, and motions to demand this were brought forward by Wolverhampton and Cheshire.—Dr. L. J. PICTON (Cheshire) observed that panel doctors were medical citizens and not State servants and that their contracts were not different from that of a builder with a county council; it was essential to maintain this. In arbitration arrangements there was always a clause admitting of appeal, and it was reasonable to regard the whole disciplinary machinery in this case as an arbitration scheme. The right of appeal would be very seldom used but would be the greatest possible safeguard against abuses.—Dr. A. FOSTER (Worcester) pointed out that the judges were continually complaining of the increasing power of Government Departments, and Dr. DAIN agreed that it would be very difficult to secure the appeal clause until the judges had succeeded in strengthening their position. It would mean a hard fight, and he did not want to fight for something that might prove unnecessary. Great improvement had been obtained through negotiation, and he urged the meeting to give the scheme a fair trial without committing itself on the subject of the appeal. Cheshire and Wolverhampton thereupon withdrew their motions, but Dr. GORDON WARD put the motion of Kent—

> That the proposed disciplinary procedure is open to the objection that: (*a*) it leaves the decision as to guilt and penalty in inquiry cases with persons who have not heard the evidence; (*b*) it permits evidence to be brought against a practitioner or an insurance committee of which neither party is made aware; and (*c*) it proposes that this state of affairs shall remain unquestioned for several years.

He maintained that the I.A.C. was not strong enough; the Advisory Committee was not a judicial body and the Minister was not forced to choose its members in rotation; he would soon get on it those who were complaisant. Dr. DAIN challenged the accuracy of the Kent statements; guilt was decided in every case by the Medical Service Subcommittee, and the whole object of the Advisory Committee was to prevent the production of evidence of which the doctor or the insurance committee were unaware. A term of three years was not long enough to do any harm. Dr. H. B. BRACKENBURY (Middlesex) emphasised the advantages secured, particularly the bridging of the "dark gap" and the acquisition of a perfectly professional tribunal to decide questions of medical procedure. The Kent motion was lost. London wanted the panel for the Advisory Committee to be either nominated or approved annually by the Panel Conference, but Dr. DAIN persuaded the meeting not to adopt this cumbersome procedure and to leave the matter in the hands of the I.A.C.

Dr. J. HOLMES, proposing a motion from Bury, that all evidence against a medical man should be given on oath, emphasised the gravity of this for the doctor. Dr. DAIN replied that the evidence was given on oath in Scotland, but it did not seem feasible to get the same procedure in this country. He was not satisfied that the oath would materially alter the witnesses' statements. The Bury motion was withdrawn on his promising to inquire into the possibilities.

Dr. H. J. CARDALE (London) then proposed three motions by London. One opposed the suggestion that a "plea in extenuation" might be made at the end of the hearing of a complaint; the second maintained that any additional issue raised at a hearing should be made the subject of a fresh charge, and the third wished to limit the functions of clerks in all cases investigated by the Medical Service Subcommittee. Dr. CARDALE pointed out the absurdity and prejudicial effect of a "plea of extenuation" put in by a solicitor before his client had been found guilty, and said that the doctor was often the worst judge of what was best for his case. Dr. DAIN said that many doctors would prefer to get it all over at one hearing and on balance they did better as things were. The Ministry would not object to a second hearing if there had been or would be prejudice. The doctor could always demand an adjournment. He reiterated his remark that the procedure of any clerk must depend on the men constituting the committee; it was impossible to provide for rabbits on a committee by rules and regulations.

Scotland.

Scotland, said Dr. Dain, did not come under this scheme, but had agreed to it in principle, except that it was not proposed to press for limitation of the clerk's activities.

National Insurance Defence Trust.

The proposal of the trustees of the Defence Trust to subscribe £1000 to the Representation-in-Parliament Fund of the British Medical Association aroused much opposition. Kent, Stockport, and West Ham sent up motions condemning it as undesirable or illegal, and the West Ham motion, expressing disapproval of the action, was passed by 71 votes to 66. Dr. H. S. BEADLES (West Ham), Dr. GORDON WARD, Mr. H. D. POLLARD (Bedfordshire), and Dr. D. O. TWINING (Devon) supported it. Dr. DAIN said that legal advice had been taken and both he and Sir ROBERT BOLAM urged the conference to take the large view of medical organisation. The best way to influence legislation, said Sir ROBERT BOLAM, was by quiet talks to officials before proposals had gone too far, and it was much better to prevent trouble than to wait until it came. It would pay them over and over again if £2000 or £3000 would keep two or three doctors sitting in Parliament. Dr. J. A. PRIDHAM (Dorset) illustrated this from his own experience of county council work, and Dr. BRACKENBURY pointed out that the proposal was not to hand over the sum to another fund but to use it for supporting approved candidates on the trustees' own conditions. It would be of the greatest importance to have suitable candidates in Parliament when the National Insurance Act came to be extended.

Collection of Statistics.

Kent and Gateshead urged the publication of statistics and the establishment of a statistical bureau. Dr. DAIN replied that a bureau would be established as soon as local committees provided it with statistics to work on. Meanwhile, figures were being collected as far as possible and were available for any area which required them. He deprecated their publication and the motions were lost.

Change of Doctor.

Dundee deprecated the new 14-day scheme for change of doctor and preferred the old six months' period. Dr. DAIN explained that the I.A.C. had had to deal with a very urgent matter and had been unable to consult the conference before acting. He thought the new scheme would discourage canvassing as well as preventing patients from getting certificates too easily. The recommendations of the Committee were

finally carried as put, with the exception of an amendment by Hertfordshire, modified by London, and accepted by Dr. Dain. This read :—

That when an insured person asks the insurance committee to transfer him from one local practitioner to another and gives some complaint against the doctor as a cause for the transfer, the committee shall arrange the transfer and shall inform the insured person that if he wishes to persist in the complaint it must be made in a separate letter.

Accidents, Mileage, and Ultra-violet Treatment.

Buckinghamshire and Northamptonshire brought forward, but failed to carry, motions asking for a special payments fund for accident cases, and for payment for emergency treatment from the Central or Area Fund. Hampshire was dissatisfied that no increase had been made in the Mileage Fund for 1927, although the statistics showed an increase of 25 per cent. on the miles travelled. Dr. DAIN said that it would be unwise to reopen the question. Cost of travel had decreased, and on the whole rural practitioners were not dissatisfied.

The Committee's report had expressed the opinion that ultra-violet ray treatment was not necessarily a specialist service, and that local committees must deal with it as cases arose. Somerset wished to refer this back, and motions from Gateshead and Dundee maintained respectively that it was a specialist treatment, and that it was not part of the duty of the ordinary practitioner. Smethwick wished to arrange some special fee for this work. Dr. DAIN saw no way of making a fair arrangement under existing procedure, but accepted Somerset's amendment.

Ophthalmic and Dental Benefit, and Benefit for the Aged.

Dundee, Bury, Liverpool, and Dorset asked for special arrangements for the cards of insured persons over 65, as old-age pensioners at present disappeared from the panel lists. Dr. DAIN agreed to discuss with the Ministry the best way of dealing with the difficulty of the aged insured person, and it was agreed that patients should have free choice of ophthalmic and dental surgeon.

The Chemists' New Agreement with the Ministry.

This year the chemists have agreed to take over the whole Drug Fund, and take the risk of profit or loss on the transaction. No specific sum was mentioned, though a minimum was fixed and an estimate made. This arrangement called forth motions of protest from Gateshead, Kent, Northumberland, and Lancashire. Dr. LE FLEMING pointed out that it was a *fait accompli*, made without the consent of the doctors; he asked the conference seriously to consider whether any good purpose would be served by anticipating at this stage trouble arising between doctors and chemists or an inferior dispensing service resulting from the new arrangement. Dr. BRACKENBURY appealed to the conference not to press their censure; the I.A.C. had already informed the Government that it considered the arrangement contrary to public policy, and there was no good in making extra difficulty. Dr. DAIN assured Northumberland that the position of the dispensing rural practitioner would not be altered and that his fees would be a first charge. Dr. GORDON WARD insisted on the importance of a protest, however, and carried the Kent motion as follows :—

That with regard to the proposals of the Ministry of Health relating to insurance prescribing, the proposed arrangement which would make it possible and financially profitable for chemists to limit the quality and quantity of medicines prescribed for insured persons, is contrary to public policy.

He failed, however, to carry a motion calling attention to grave deficiencies in the pharmaceutical service, such as failure to dispense promptly and to make provision for emergency prescriptions. Dr. DAIN said that a subcommittee had been set up which would go into complaints of this nature.

Coventry carried a motion designed to check excessive prescribing, and help doctors to know how they compared with the average, by asking that the data supplied by pricing bureaus, &c., to pharmaceutical committees should also be supplied to local panel committees.

A National Formulary.

Opinions were divided on the desirability of a National Formulary, urged by West Suffolk. Some thought that it would give the impression that panel patients were prescribed for in a set and specially cheap manner; others thought the evils of stock mixtures were exaggerated. Dr. DAIN characterised the opposition as theoretical and very unpractical, and the motion was carried.

While agreeing with Walsall that private referees appointed by approved societies were undesirable, the Chairman asked what steps the I.A.C. could take in the matter, and nobody was able to suggest any. A motion by Gateshead deprecating any referees other than the regional medical staff was carried.

A motion by Drs. H. J. CARDALE and C. L. BATTESON (London) approving the principle of research by panel practitioners was carried, but the conference decided to pass to the next business when asked to agree that the doctors should be paid for such work. Dr. E. A. GREGG (London) pointed out the special value of research of this kind in view of the regularity and continuity of observation, and the stereotyped records at the disposal of insurance practitioners.

The Dinner.

The annual dinner was held at the Holborn Restaurant in the evening, under the chairmanship of Dr. LE FLEMING, and was an informal affair with a short toast list.

MEDICAL SERVICE IN THE MERCANTILE MARINE.

NOT long ago the value of seeking a temporary billet with one of the steamship companies would be put before newly qualified men by the teachers at the medical schools, who would detail the advantages to young men of seeing the world in this way. These advantages may still be obtained in the employment of some of the companies, but others, and mostly the more important ones, have a medical service, which, though it is not of the long employment type prevailing in the Fighting Services, still does not offer temporary engagements for brief periods. But this statement requires some qualification to make it cover all the circumstances, so that every candidate for medical employment with the mercantile marine must address the company selected and obtain a statement of the terms offered. Although there is no uniform pattern the following will give a composite view of the situation on British lines, and it may be added that much the same conditions prevail in the best foreign lines, but foreign nationality is then generally made a condition.

On all the British steamship lines the medical officers must be of British or colonial birth and their names must be on the Medical Register. The age-limits for entrance and for the period of service vary considerably. The posts are frequently open to the middle-aged, and medical men may expect appointments in some quarters between the ages of 30 and 50, though one company gives the top limit for entrance at 45 and another at 40. One of the largest companies states that it does not consider applicants under 25, though few men apply for the posts at so early an age, particularly as throughout the service stress is laid upon the importance attached to experience after qualification. Certain of the companies require a health certificate with the application, but in most cases the chief medical officer or medical inspector will interview the candidate on behalf of the company. In the matter of testimonials and references the procedure is fairly uniform. References are required, usually two, and several companies lay stress on the fact that one of these should be from a non-professional source.

Evidence of previous experience must be furnished, and the holding of house appointments or other responsible billets counts in the candidate's favour.

The tenure of the appointments varies, and therefore no scale of pay can be given in detail. Some companies carry a permanent staff, but in others, equally well known, the actual appointment is from year to year or for one voyage, the contract being renewed as long as it is mutually satisfactory. That such appointments amount to a permanency is noted by the P.M.O. of two of the most important companies, who state that they have officers who have served the company in this manner for 20 consecutive years. The scale of pay is fairly alike in all the companies. As a rule it is £25 per month, rising by yearly increments of £1 monthly to £35, and in one case to £40 per month; but the exact facts will, of course, be ascertained by every candidate on seeking employment. Where long tenure introduces the question of compulsory retirement the age settled is from 60 to 63, and pensions or gratuities are at the discretion of the managements. Alterations in the conditions of service on some of the companies are, however, contemplated.

In addition to salary the medical officer is entitled to make private charges for attendance upon passengers, and the arrangements here differ with different companies and with the class of steamer, but certain common principles prevail. It is usual for the company to fix the scale of fees to be charged by medical officers to passengers. In some cases all illnesses and accidents to passengers can be charged for unless that illness or accident can be reasonably held to be due to the fault or negligence of the company. But the regulations of some companies show that fees can only be received in respect of illnesses which do not have their origin on board, and there is sometimes an embargo upon the doctor paying more than two visits per diem to a patient in a private capacity save with the knowledge of the captain. This proviso is, we believe, a remnant of old prejudices; it would never be allowed to interfere with the discretion of the medical officer. Throughout all the lines fees for first-class passengers are higher than for second-class passengers, and in some cases third-class passengers are attended by the medical officer gratuitously in the same way that he attends the ship's crew.

The arrangements for leave do not differ much on the different lines. The medical officer can expect three weeks' holiday yearly on full pay and some of the lines offer to allow this to accumulate for three years. In some companies the period may not be mentioned, as the duration of leave corresponds with stay in a home port. One company offers a month's holiday on full pay every year, and another, while paying the medical officer for periods when off duty, because the ship is in port or being overhauled, grants also leave on full pay for post-graduate study. One company offers a subsistence allowance in addition to full pay.

The medical equipment on board ship will, of course, differ with the size of the ship and the length of the voyage. The larger ships may carry two surgeons, two sisters, and one or two dispensers. On the smaller ships the doctor may have to work with a hospital attendant only, whose duty it may be to keep the dispensary in order, the responsibility of dispensing remaining with the doctor. On all the lines the medical officer pays for his uniform and sometimes for a named list of instruments, while in others the company is at the latter expense. Drugs are invariably found by the company.

Other points to be noted are that the foreign steamers using British ports are manned by foreign doctors in ordinary circumstances, and that none of the companies extends facilities to the medical officer to be accompanied by his wife.

Such is a sketch of a career which, while it possesses a general pattern, is clearly open to individual variations in many of which the medical practitioner may find attractions.

MEDICINE AND THE LAW.

Coroner and Jury: Inquisition Quashed for Irregularity.

ALTHOUGH a coroner is allowed an ample latitude in the conduct of proceedings at an inquest, there are yet a few irregularities of which superior courts will take notice. Thus a Divisional Court had occasion on Oct. 13th to quash a coroner's inquisition and to direct a fresh inquest on the ground that the coroner had entered the jury's retiring-room. The general grounds for quashing a coroner's inquisition are broadly two—some irregularity in the inquisition and verdict or some irregularity on the part of the coroner or jury. As instances of the former class may be mentioned cases where the facts set forth in the inquisition did not warrant the jury's finding, or where the finding was uncertain, or where the word "feloniously" was omitted from a verdict of manslaughter. Instances of the latter class are cases of actual misconduct—as where in 1701 a coroner took some of the jurymen off the inquest after they had been sworn in order that he might influence the verdict—or cases of mere technical irregularity like that of the case which occurred just before the operation of the recent Coroners (Amendment) Act where an inquest was held without view of the body.

The recent case in which the Divisional Court interfered was an inquest held in the Thirsk Division of the North Riding of Yorkshire upon the death of Mr. Walter Tindall, a veterinary surgeon of Stillington, who was knocked down and killed by a motor-car. The coroner's jury last August returned a verdict of "Accidental Death" but added a rider—as juries love to do—saying that they thought there had been a certain amount of negligence and that they desired to censure severely the driver of the motor-car. The motorist, dissatisfied with this finding, got a rule *nisi* for *certiorari* to bring up and quash the inquisition on the twofold ground, first, that the coroner was present in the jury's retiring-room for a quarter of an hour while they were considering their verdict, and took the verdict in private; and, secondly, that the verdict and rider were contradictory. The decision turned upon the first of these grounds. There were two Irish cases in point. In the Ballyragget case (1883) some of the jury had unnecessarily absented themselves from the inquest; they went out into the public streets, and before they delivered their verdict the coroner spent some time with them in private. This was held fatal to the inquisition and there was a similar consequence to the Mitchelstown inquisition (1888) where a coroner not only spent an hour in the jury's room after the jurors had retired to consult upon their verdict but had also committed some irregularity by interfering in the summoning of the jury. In the Mitchelstown case the coroner was told that the jury had agreed, and he thereupon visited them before the verdict was declared; he took the verdict in private and drew up the inquisition before returning into court. These Irish decisions were held to apply to the recent Yorkshire case. No comment was made by the Lord Chief Justice on what the coroner for the Thirsk Division had either said or done. It was not suggested, said Lord Hewart, that the coroner was doing anything other than helping the jury in the discharge of its duty, but, doing so in that place (the jury's retiring-room), he was guilty of misconduct and the inquisition must be quashed. A fresh inquest was ordered to be held before the coroner for the Pickering Division of the North Riding. On behalf of the Thirsk coroner, and in support of the challenged inquisition, it was argued that the real attack was not upon the coroner's presence in the jury's room but upon the jury's rider. It was suggested that the court had power to strike out the rider, in which event the verdict would be unobjectionable; it was also pointed out that the verdict and rider were not really inconsistent; they simply meant that there was carelessness but not criminal negligence. However, as already stated,

the Divisional Court did not pass any opinion upon this aspect of the inquest, there being sufficient ground for upsetting the inquisition upon the irregularity of the coroner's visit to the jury.

Cost of X Ray Photograph: a Gap in the Insurance System.

The benevolence of the pious founders of charitable institutions in England has resulted in traditional acceptance of the fact that the law gives no recognition to the moral duty of paying for services rendered by a hospital. The increasing perils of motor traffic are introducing more and more people to a personal knowledge of the value of our hospital system as well as to a realisation of the wisdom of insurance against accident. Men and women who find themselves under treatment in hospital as the result of injuries received in accidents naturally desire, out of ordinary decent feeling, to make such financial return to the hospital as they can reasonably afford. But they learn to their surprise that their insurance policies do not entitle them to a refund of any hospital fees which they may have paid. The insurance companies repudiate liability on the ground that there is no legal compulsion to make such payments for hospital treatment. Fresh legislation would be necessary to alter the position, unless the companies can be induced to take a more generous view.

A correspondent, whose letter is published in the *Times* of Oct. 21st, gives a fresh illustration of this gap in our insurance system. A chauffeur injured his foot while on duty and the doctor deemed it necessary to have an X ray photograph taken. Subsequently the chauffeur received an account from the hospital for one guinea. He applied to his approved society for assistance towards paying the account, but was informed that it was an additional benefit not covered by their scheme and that, therefore, no grant could be given. The chauffeur's employer, being insured under an employer's liability policy, made a claim thereunder for the cost of the X ray photograph. The underwriters replied that it was a contingency not covered by the policy, since there was no legal liability upon the employer to pay the hospital. Thus either the chauffeur (who cannot well afford it) or the employer (who is in no way liable) must pay out of his own pocket for an item of treatment which one of the two systems of insurance, national or private, should certainly have covered. It is just conceivable that a hospital would be entitled to recover a fee for a specialised service such as the taking of an X ray photograph under the ordinary law of contract, though no fee could be recovered for treatment. But, as is well known, hospitals have to consider whether the privilege of being a plaintiff in certain cases is worth the risk of being a defendant in others.

Osteopath's Unsuccessful Claim for Fees.

The recent action in the Bloomsbury County Court has failed to settle the vexed question whether an osteopath can recover in a court of law the fees which he claims for his professional services. The county court judge decided the case upon issues of fact. In effect he held that the plaintiff's services were worthless; the fees had not been earned, so there was no question whether they could legally be recovered. From this finding of fact no appeal can presumably be made. The question of law thus stands where it did—in a condition of some uncertainty. The action began with the claim of an osteopath for the sum of £30 9*s.* for professional services rendered to the defendant's wife. The plaintiff, who described himself as a doctor of osteopathy, examined and treated the defendant's wife and made charges on the scale of 3 guineas for a consultation and 2 guineas for each single visit, including treatment. The deputy county court judge non-suited the plaintiff. He held that the claim was barred by Section 32 of the Medical Act of 1858, which declares that "no person shall be entitled to recover any charge in any court of law for any medical or surgical advice, attendance, or for the performance of any operation . . . unless he shall prove upon the trial that he is registered under this Act." The Divisional Court, however, allowed the plaintiff's appeal on the ground that there is a distinction between advice and treatment, and that the plaintiff might be able to recover fees for the one though debarred from recovering fees for the other. As the judge in the court below had not provided any material for deciding whether the amount claimed could be split up and a distinction made between charges for treatment and charges for advice, the Divisional Court sent the case back to the county court for a new trial. Legal opinion is by no means unanimous that the Divisional Court was right. Advice, say the critics, cannot be severed from treatment; the patient takes the treatment because of the advice. If a contract contains legal and illegal elements and the legal cannot be severed from the illegal, the whole contract ought to be held void. The Divisional Court was following the older case of Hall *v.* Trotter, but in Hall *v.* Trotter the element of advice was apparently absent. Be that as it may, the county court judge, to whom the case was remitted, found himself able to dispose of it without considering these legal niceties. His honour Judge Hill Kelly stated that he was satisfied that the treatment given by the plaintiff to his patient could not have achieved any beneficial results; he came to the conclusion that the services rendered were wholly useless, and he gave judgment for the defendant with costs.

The plaintiff, in giving evidence, described an osteopath as one who by moving bones relieved suffering; in fact, in cross-examination he agreed that osteopathic treatment was worthless if the suffering cannot be relieved by moving bones. The patient, he said, came to him in March, 1926, after having benefited by osteopathic treatment at Eastbourne. He examined her and found certain bones were not in their proper position. She complained of a pain in her neck, that her tongue was "glued to her mouth" in the morning, and that her eyes were very tender. She suffered from general debility. He gave treatment to relieve these conditions and he said that, if the patient had been more regular in attending for treatment, she would have been cured of the troubles of which she complained. Sir Herbert Waterhouse, a witness for the defendant, said that the movement of bones would not have removed the pain in the eyes of which the patient complained. Another well-known surgeon, Mr. Frank Romer, said that the bones stated to have been moved by osteopaths could not be moved. Dr. J. C. Keats, of High-street, Wanstead, who had been the patient's regular medical attendant, spoke of the results of his examination of her and expressed the opinion that the osteopathic treatment she had been receiving was wholly useless and that she derived no benefit therefrom. This opinion the learned judge adopted. The case indicates that in a particular set of conditions a particular osteopath made a claim which could not be substantiated; possibly it indicates nothing more. The plaintiff was careful to distinguish the moving of bones by osteopaths from the mere movement of muscles by massage. This was an opportunity to obtain a judicial ruling whether the moving of bones by an unregistered osteopath is or is not an "operation" within the meaning of the Medical Act already quoted. But unfortunately the point was not decided.

THIRTY YEARS OF KING EDWARD'S FUND.—The Prince of Wales was the principal guest at a luncheon given at the Mansion House by the Lord Mayor, in commemoration of the thirtieth anniversary of the establishment of King Edward's Hospital Fund for London, and the work of the League of Mercy. Recalling the achievements of the Fund, the Prince said that in the last three years it had helped to add 1100 beds to the metropolitan hospitals, and reminded his hearers that one of its committees is at present inquiring into the serious question of the provision of beds for paying patients. In the year of the Fund's inception the expenditure in hospitals in London was £700,000; it is now £3,000,000, and the annual distribution has risen from £32,000 to £245,000. The League of Mercy has given the Fund nearly £400,000, and has, in addition, distributed more than £87,000 to local hospitals outside London.

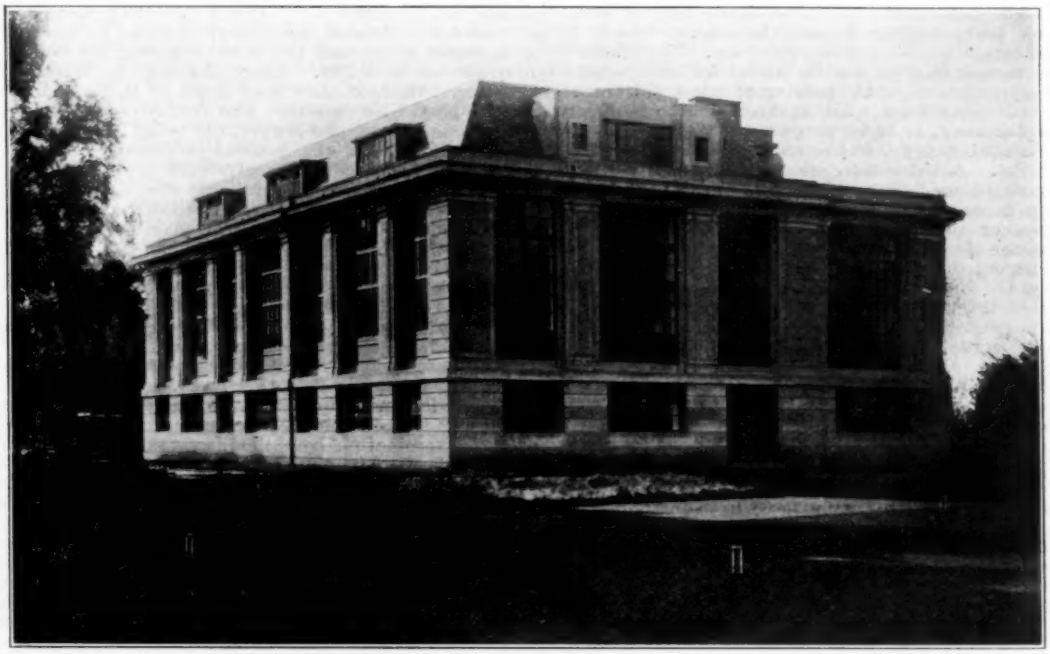
THE NEW BIOCHEMISTRY BUILDINGS AT OXFORD.

A RECENT gift of £75,000 made by the Rockefeller Foundation for a new department of biochemistry at Oxford solved two problems that had been exercising the minds of those who direct research at the University. One of these was the need of additional accommodation for the Department of Physiology; the other was the claim of biochemistry to adequate recognition in the home of some of its most eminent pioneers. The first chair of biochemistry was endowed by Mr. Whitley in 1920 and was occupied by Dr. Benjamin Moore until his death in 1922. He was succeeded by Dr. R. A. Peters, who has had the good fortune to watch the inception and rapid growth of the new building for which the plans were prepared and the site cleared as recently as 1924. In order to maintain organic contact between the departments of physiology and biochemistry the two sections have in common a large lecture room and a library. The former was actually in use in October, 1925; classes were transferred to the new laboratories in October, 1926, and the move was completed at the end of the year. The school was formally opened on Oct. 21st by Viscount Cave, Chancellor of the University.

In order that the windows might be as wide as possible the narrow spaces between have been treated as pilasters in a classical "order" and the outer walls are faced in aluminous cement. The main walls are of brick and the floors and roofs of reinforced concrete, supported on steel stanchions. Internal partitions are of light but rigid breeze concrete, and are so constructed that they can be moved easily if at some future date rearrangement of the rooms should be found desirable. All the fittings, too, are as movable as possible; drains are regularly spaced, and gas, water, and electric power lavishly supplied. The object is to allow the building to "find itself" in Kipling's phrase, as the teaching and research work carried out in it develops. All the rooms have wooden slats on the walls and beams on the ceilings for the suspension of apparatus, and many are ventilated by fans. There are two electric lifts, and the main staircase, like the outer doors, is of English oak.

On the ground floor is the main lecture theatre, common to the two departments, with a separate preparation room for each. On either side of the passage to the hall lie the unpacking and centrifuge rooms, the refrigerators, lavatories, and stores. Also on this floor are dark rooms for photography and physico-chemical research, a workshop and a room for keeping rats. There are also research rooms.

The two classrooms are on the first floor and are 16 ft. high; they are separated by glass partitions, so that they can be used as one room or two. Thus, if necessary, 100 students could be taught at a time. Leading out of them are preparation and dark rooms and the main balance room. The new library is also on this floor, which like the ground floor, communicates directly with the physiology department. Between first and second floors is a mezzanine, occupying the space left by the great height of the class rooms. Here is a rest room, a room for constant-temperature work insulated by a cork lining, a research room, and the indoor animal house. The last has an asphalt floor and enamelled walls.



THE NEW INSTITUTE OF BIOCHEMISTRY.

The second floor is entirely given over to research work, and will accommodate 20 workers. Besides the various small laboratories it is provided with an aquarium room, an operating theatre, an animal bathroom, a sterilising room, and a flat roof with a small open-air laboratory. The aquarium has been modelled upon that at the Molteno Institute, Cambridge, and its large tank is made of Cambrian slate. Water for the tank is collected from a specially tiled part of the roof and carried through vulcanite fittings.

It will be seen that the new institute is not unworthy of its place in the University. Where Boyle, Hooke, Lower, Mayow, Willis, and Wren worked, but left no school behind them, J. S. Haldane, F. Gotch, and C. S. Sherrington have carried on the tradition of biochemical research under the roof of the physiology

building. Their successors will now have circumstances in their favour, and the authorities feel that the most urgent need at present is for studentships to enable men to stay on for one or two years to be trained in research work. An appeal is made for help in this direction and also for a stable endowment for the research library, at present supported by funds from each of the departments.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The Dentists Bill.

THE Dentists Bill for the Irish Free State was introduced to the Dail last week for the third time. A warm debate, in which most of the medical Members took part, centred round the clause which gives protection to the dental profession. The clause lays down that it shall not be lawful for any person, on or after the date of the passing of this Act, to practise, or hold himself out, whether directly or by implication, as practising, or being prepared to practise, dentistry or dental surgery, unless such person is a registered dentist. A subsection allows the performance by a registered medical practitioner of any surgical operation in connexion with the tissues of the mouth or jaws, or the giving by a registered medical practitioner of any dental treatment, advice, or attendance in urgent dental cases. Sir James Craig pointed out that the exception in regard to "urgent" cases was impracticable, and that no case had been made for the prohibition of the practice of dentistry by medical practitioners. He was supported by Dr. O'Dowd and Mr. Hennessy and by several lay deputies. Mr. McGilligan, the Minister in charge of the Bill, said that he did not stand by the clause, and that he would leave the decision to the House. It could be discussed further in Committee.

It is unfortunate that a provision establishing a grave precedent in regard to the privileges of the medical profession should have been introduced into a Bill without previous consultation with representatives of the profession. The Bill was drafted in consultation with representatives of the dental profession, and, as far as is known, no independent medical opinion was sought.

Royal College of Physicians of Ireland.

At the annual business meeting of the Royal College of Physicians of Ireland, held on St. Luke's Day, Dr. William Arthur Winter was elected President. The following were elected Censors: Dr. B. Solomons, Dr. F. X. Callaghan, Dr. V. M. Synge, and Prof. J. W. Bigger. The President nominated Dr. Solomons as Vice-President. The several College officers and examiners were elected. In the evening the College dinner was held for the first time since 1921, about 100 Fellows and guests being present. Among the principal guests were the Chief Justice of the Irish Free State, the Provost of Trinity College, the President of the Royal College of Surgeons in Ireland, the President of the Royal Academy of Medicine in Ireland, the Dean of St. Patrick's, and the Archdeacon of Dublin. In the course of the evening a telegram of greeting was received from the Royal College of Physicians of London.

Dublin University Biological Association.

The opening meeting of the Dublin University Biological Association was held in Trinity College last Saturday evening, when the President-elect, Prof. J. W. Bigger, read a paper on the Expectation of Life and the Bacteriological Laboratory. He pointed out that the expectation of life might be increased by postponing the age of death or by preventing avoidable death. In the period 1920-22 the expectation of life was greater by 14 years than in the period 1871-80, and in the last half-century the death-rate had fallen by 21 per cent. He went on to show that the expectation of life had increased side by side with the increase of knowledge gained in the bacteriological laboratory. He showed in the case of several diseases how science had diminished the death-rate. He pleaded for a wider recognition of the value of preventive medicine, and for more adequate provision for research. The paper was discussed by Prof. F. E. Wynne (Sheffield), Prof. E. E. Glynn (Liverpool), Prof. W. St. C. Symmers (Belfast), and Dr. W. L. Treadway (U.S. Medical Service).

Workmen's Compensation.

The senior surgeon to the Meath Hospital, Mr. Lane Joynt, delivered an address to the students of the hospital at the opening of the session on Oct. 14th, on various aspects of the Workmen's Compensation Acts. Considering that the Act had been in force sufficiently long to estimate how it had worked, he found prejudice had been overcome and its benefits were more generally known, the medical profession not always showing to advantage in these cases, and not always aiding the courts as much as it might. Many doctors, he warned his hearers, thought they were hired as fighting men for the particular master who employed them, this attitude, proper in a lawyer, not being in keeping with the traditions of the medical profession. A medical man might be called to give evidence of fact firstly, and secondly as to the probable effects of any injury on a man's future health. The latter was a matter of opinion, but should be given regardless of who is affected from a monetary point of view. The insurance companies relieved the employer of his liability under the Act and were bound to protect themselves, and in so doing employed the medical men best qualified not only to give them expert advice but who were accustomed to appearing in legal cases and were not upset by cross-examination. The workman, on the other hand, generally only had the advice and help of a house surgeon or of a practitioner unaccustomed to courts of law, who under cross-examination by skilled lawyers frequently failed to do justice to their patients or themselves. He concluded with reflections that ought to be widely recognised by the public as well as the medical profession. For he pointed out that hospitals reduced the sums insurance companies would otherwise have to pay, and yet the companies did not subscribe anything like an adequate amount. Without the hospital treatment most workmen's injuries would result in life pensions. Artisans and workmen were now in a better position than formerly. The change in the distribution of wealth had an adverse effect on hospital funds, and they were now forced to demand some payment from every patient.

BUCHAREST.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Epididymitis.

Prof. Bradiceanu recently outlined the method of treating gonococcal epididymitis employed at the Polyclinic in Bucharest. Upon the development of pain in the epididymis all urethral injections are stopped, and the patient is sent to bed and put upon a fluid diet. Free catharsis is ordered, together with mild urinary sedatives. Every second day some protein preparation is injected intramuscularly, and eventually also some gonococcus serum or vaccine is administered. Locally, in the last series of cases experimented upon, belladonna or ichthyol or iodine ointment, or an ester of salicylic acid has been used. The latter is a clear liquid, freely miscible with animal and vegetable oils. Medicinally, it is characterised by the fact that when painted on the unbroken skin it is absorbed and circulates in the blood as sodium salicylate. This drug, when applied to the scrotum once a day, produces a local feeling of warmth, no inflammation of any importance, but occasionally a fine desquamation. Within a period varying from 12 hours to 7 days, the pain is very

largely controlled. As soon as this has been accomplished, swelling of the organ is reduced by the application of mercurial ointment locally and iodide of potassium internally, and by careful strapping. In applying the straps, care should be taken at first to confine the testicle to the lower part of the scrotum by a band of adhesive plaster passed tightly around the scrotum above it. The strips which cover the lower part of the scrotum should begin and end at this circular band as a fixed point, and should be drawn tightly at intervals of a few days until the swelling has disappeared.

Suicide by Carbolic Acid.

The use of carbolic acid is not a passing fad among suicides, at any rate in the Near East. It is an established custom, due primarily to the fact that the legitimate uses of the acid are so numerous that it is easy for almost any person to give a druggist a plausible reason for its purchase. Death by carbolic acid is death by torture, but the would-be suicide who is in real earnest does not stop to bother himself about a few moments or a few hours of agony. The Rumanian Pharmaceutical Association favours the passing of a new law regulating the sale of this poison, and the council will do well, says the *Clujul Medical*, to give the proposal careful consideration. It is said that the placing of restrictions upon the free sale of concentrated solutions will do much good, with little inconvenience to the public, inasmuch as the more dilute solutions are perfectly satisfactory for most legitimate uses. The concentrated solutions are fatal, but the weaker solutions are not very dangerous. There is reason to believe that a properly framed ordinance would reduce the number of suicides.

Prohibition of Alcohol in Medicine.

An effort is to be made by the Bucharest Council of Public Hygiene to direct legislation to prohibit the sale of such patent medicines as contain alcohol in excess of the quantity sufficient or absolutely necessary to preserve them. At a recent meeting of the Council the question was again discussed in all its bearings and analyses were produced of several of the well-known patent medicines, most of them of foreign origin, which proved somewhat of an eye-opener for some of those present. It was abundantly shown that there was from 14 to 40 per cent. of alcohol in many of these preparations, and that it was nothing more than the brandy habit which caused so many people to patronise these so-called cure-alls and vitalising liquors. For years the medical press has been calling attention to the fact that their virtues, if there were any, were merely due to the alcohol they contained, and it is gratifying that persistent and consistent agitation has brought the supporters of temperance into line, and that they are uniting as a body in controlling the evil.

LEICESTER ROYAL INFIRMARY.—It has become necessary to reconstruct the central ward, the last of the original wards of 1861. Of the 80 patients displaced during the rebuilding, 30 will be provided for in a temporary ward which is already under construction, and it is hoped to accommodate the remainder in the Hospital Saturday Society's convalescent homes.

NEWCASTLE INFIRMARY ENLARGEMENT. — The governors of the Royal Victoria Infirmary, Newcastle-upon-Tyne, find themselves compelled to face an expenditure of £150,000 for its extension. Since the building was opened in 1906 the number of in-patients has nearly trebled, out-patients have increased sevenfold, and now average 1000 a day; and where, 21 years ago, there were 4000 operations there are now nearly 14,500. The hospital is badly overcrowded, yet the waiting list numbers more than 2000. The large expenditure contemplated is made immediately necessary by the expiration at the end of March next of the lease of the adjoining buildings of the Ministry of Pensions Hospital when they revert to the infirmary. They must then be so adapted as to provide a large number of beds, extend the out-patient department, and afford increased accommodation for nurses and domestic staff. The infirmary, which serves the counties of Northumberland and Durham, with a population of two millions and a quarter, is the only teaching hospital between Leeds and Edinburgh.

Public Health Services.

LIVERPOOL PORT SANITARY AUTHORITY: ANNUAL REPORT.

IN his interesting report for 1926 Dr. A. A. Mussen mentions 5613 visits of inspection that were paid to ships, of which 930 had nuisances on board on one or more of their visits; there were 3099 dirty forecastles, but only 251 foul water-closets (last year he reported 681). He devotes a chapter to the hygiene of crew spaces, in which he remarks that accommodation for crews is improving and is now often at the after end of ships, where men get more room, better ventilation and lighting, and less weather stress. He has accumulated evidence about conditions in the larger cargo ships with white crews that use the port of Liverpool, and found that of the 187 ships built before 1916 only 20 per cent. had their crew accommodation aft, while of the 211 built since 1916 70 per cent. were thus constructed, the seaman in most of the modern ships no longer living in the forecastle. Other improvements to be noted were cubicles fitted in 28 per cent. of the 211 newer ships, the former proportion being 1·8 per cent.; mess rooms in 63 per cent. against 12; washhouses (or wash places) in 92 against 66; baths in 7·5 against 0·5; and hospitals in 50 per cent. against 24. Similar improvements were made in ships for lascar and mixed crews, and in the smaller cargo steamers as well. We still know too little of the diseases from which seamen suffer, beyond what can be learned from the Board of Trade's annual return of their deaths, but in this report we are told what infectious diseases occurred among the large number of crews and passengers during the many voyages of the ships that reached Liverpool during the year. Of the 237 malaria patients, 202 were seamen; of 91 with pulmonary tuberculosis, 41; of 23 "other tuberculosis," 12; of 65 with chicken-pox, 28 were passengers, the ship's doctor and 36 natives supplying the balance; of 59 with measles, 7 were seamen; of 58 with pneumonia, 36; of 41 with enteric, 30; of 5 with small-pox, 3; of 4 with plague, all were seamen, but no plague case was landed at Liverpool. From this we may gather that the infectious diseases that most affected seamen were malaria, tuberculosis, pneumonia, and enteric fever—plague has always been recognised to be a special risk of seamen.

The fear of plague arose in Liverpool during the year on two separate occasions. A boy was, on August 28th, admitted to the Northern Hospital, Liverpool, where he died in two days of the disease, no case having occurred in the city for several years. His father visited the hospital, was examined and found to be suffering from plague, with a small inguinal bubo. He recovered in three weeks. This father was a watchman in the South Dockyard. The most exhaustive and careful search for plague rats was at once undertaken, both in port and city; none was discovered. While attention at the docks was thus focused upon plague, the ss. *Zaria*, on her way to the port from Lagos, West Africa, reported, on Sept. 10th, that two native firemen had died on board from plague, each with a bubo and high fever. The *Zaria* arrived at the port on Sept. 12th, and was met and inspected by the assistant port medical officer, three sanitary inspectors, two rat catchers, and two rat searchers. Naturally every person on board was carefully examined, but no case of plague was found, nor did any develop later. The ship and her cargo were dealt with thoroughly, and she was fumigated. One hundred rats were found on board her, 42 of them were dead, 38 were trapped, and 20 killed by hydrocyanic acid fumigations; 31 per cent. were plague-infected. Thorough precautions were taken to prevent infection of the rats ashore, and apparently with success, for no plague rat was found among the 6805 from the city and port examined during the year. Captains of ships now report by wireless if they have any infectious or suspicious case on board

or have been within two months in a suspected harbour; thus much time is saved to them, medical inspection being carried out immediately on arrival. The rats captured and destroyed were, on ships 36,265, on the quays 2562, and in the city 16,185, in all 55,012, a number 6000 less than in 1925, so perhaps the active and persistent campaign in Liverpool is at last reducing the rat population. As usual there were few black rats ashore, few brown rats afloat. No mention is made this year of the new rat-guard for hawsers recommended in the last report, but valuable original observations by two rat-catchers on the evidences of rat infestation on ships are given. Thus they report that one rat in 24 hours ate out the soft portions of 425 grains of maize. Now that is a quarter of a pound, and maize costs 35*s.* a quarter (480 lb.), so the 18,747 rats killed in Liverpool in city and port in the year, if they had lived there only three months, had already eaten, measured in maize, £1550, and the 36,265 in ships, £3000. Besides there is the damage they cause. So the campaign for their reduction has financial value, as well as sanitary reason.

The venereal clinics have this year been attended by larger numbers; 1360 new cases were seen in the seamen's dispensary; we gather that not all were seamen. Some 15 per cent. attend but once, and another 15 per cent. discontinue treatment before they are non-infectious. Of every 10 cases 3 were syphilis, 6 gonorrhœa, and 1 soft chancre. Lectures are given on the dangers of venereal disease in the first-aid and hygiene courses for mercantile marine cadets, and also to boys elsewhere in the city. The 17,781 aliens examined were almost all from North America and were clean; only ten certificates of rejection were issued. The medical inspection room wanted last year has been obtained. Half the emigrants and other passengers leaving Liverpool went to Canada. Verminous transmigrants are dealt with at the city hospitals. Emigrants, second or third class, for the United States are inspected by officers of the U.S. Public Health Service. All emigrants are inspected by the medical officers of the Board of Trade (23 were rejected for infectious disease), also the crews of all vessels bound for America.

The new Public Health (Imported Food) Regulations, 1925, have greatly simplified the work of meat inspection; 340 tons of meat were condemned for faulty preservation, 88 tons of canned goods, 2000 tons of fruit, 2000 tons of cereals. Anyone can see that much illness of many sorts has been spared the public by the admirable work of this port sanitary authority.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED OCT. 15TH, 1927.

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 124 (last week 149); scarlet fever, 2463; diphtheria, 1271; enteric fever, 81; pneumonia, 849; puerperal fever, 37; puerperal pyrexia, 114; cerebro-spinal fever, 4; acute poliomyelitis, 23; acute polio-encephalitis, 4; encephalitis lethargica, 19; dysentery, 5; ophthalmia neonatorum, 104. No case of cholera, plague, or typhus fever was notified during the week.

Of the cases of acute poliomyelitis and acute polio-encephalitis taken together, 5 were notified from the East Riding of Yorkshire (2 only of these from Kingston-upon-Hull), the remainder distributed widely over the country.

Deaths.—In the aggregate of great towns, including London, there was no death from small-pox, 1 (0) from enteric fever, 14 (0) from measles, 5 (1) from scarlet fever, 6 (3) from whooping-cough, 32 (5) from diphtheria, 72 (12) from diarrhœa and enteritis under 2 years, and 51 (7) from influenza. The figures in parentheses are those for London itself. The number of stillbirths registered during the week was 231 in the great towns, including 34 in London.

Correspondence.

"Audi alteram partem."

PLACE-IN-FAMILY AND DISEASE.

To the Editor of THE LANCET.

SIR,—I have read Dr. Still's lectures with much interest. It appears to me futile to attempt an investigation of this most interesting problem unless full account is taken of the healthy-remaining members of a given community. Dr. Still clearly sees this difficulty, as stated on page 796, but I think he brushes it aside too lightly. Let me illustrate my objection.

TABLE I.

No. of families.	Children in each.	Total children.	Place-in-family.				
			1st.	2nd.	3rd.	4th.	5th.
400	1	400	400	—	—	—	—
300	2	600	300	300	—	—	—
200	3	600	200	200	200	—	—
100	aver. 5	500	100	100	100	100	100
1000	—	2100	1000	600	300	100	100

All the figures are, of course, merely assumptions; nevertheless, they will illumine the point. Leaving out of account the childless families, neglecting also here for simplicity's sake miscarriages and still-birth, the number of families with one child is evidently

TABLE II.—*Incidence of Disease.*

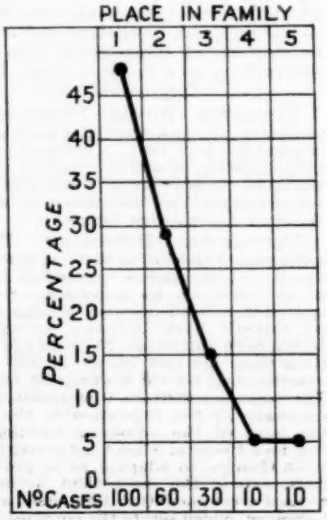
Place-in-family—	1st.	2nd.	3rd.	4th.	5th.
	40	—	—	—	—
	30	30	—	—	—
	20	20	20	—	—
	10	10	10	10	10
Total (= 210).	100	60	30	10	10
Per cent. of total of 210 approximately.					
	48	29	15	5	5

the largest in every living community, since every family has to begin with one child, and the number of families decreases, as the number of children per family increases.

Let us assume a community of a thousand families, of whom 400 have one child, 300 have two children each, 200 have three children each, and 100 have more than three children, say average 5. We then get the results shown in Table I.

Now let us assume that there is an incidence of disease *unaffected* by place-in-family, or age, and that this amounts to 10 per cent. of the children. We then get results as shown in Table II.

Entering these into Dr. Still's schema we get a curve, which I show here, very similar to Dr. Still's



the exact shape of which will, of course, depend entirely upon the ratios of the families with different number of children one to another.

I contend that unless the exact number, and hence the proportion of the unaffected children, is ascertained, no reliable results can be calculated.

I am, Sir, yours faithfully,

A. WOHLGEMUTH, D.Sc. Lond.

Shortlands, Kent, Oct. 22nd, 1927.

To the Editor of THE LANCET.

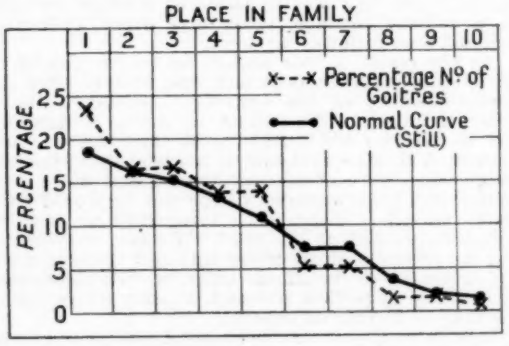
SIR,—In an investigation last year into some of the circumstances associated with the development of goitre in children, included in the annual report of the school medical officer for Lancashire, I noted the position in the family occupied by the goitrous child. The mothers were closely questioned as to their children and all pregnancies were included so far as their memories went. As the interrogation took up considerable time only 90 families, containing 115 goitrous children, were investigated (360 cases of goitre were noted among 2600 children examined) so that the material needs expansion. It is interesting to compare the figures (shown in the table) obtained for these goitrous children with the standard distribution suggested by Dr. Still in his Ingleby Lectures.

Table showing percentage of all Goitrous Children Occupying Position in Family Stated.

(A) = Standard (Still). (B) Goitre (Cronk).

	Position in family.									
	1	2	3	4	5	6	7	8	9	10
(A) ..	18·5	16·1	15·4	13·4	10·8	7·5	7·6	3·9	2·1	1·7
(B) ..	23·4	16·6	16·6	14·0	14·0	5·2	5·2	2·6	1·7	0·9

In the graph which I have drawn from this table it will be seen that children from the first to the fifth inclusive appear more liable to acquire goitre than



others. This suggests that the environment, particularly food, has a good deal to do with goitre, since the family circumstances immediately become straitened with the arrival of children and improve again as soon as a child attains the age of 14 years and starts earning, as they all do in this district.

I am, Sir, yours faithfully,

Ashton-on-Mersey, Oct. 19th, 1927. H. L. CRONK.

To the Editor of THE LANCET.

SIR,—In relation to Dr. Still's articles on Place-in-Family as a Factor in Disease, there is an interesting point in pre-Napoleonic French law. Under this code the *second* of twins was considered to be the heir. This was founded upon a theory of conception, but the underlying fact may have been that the second to be born proved to be the healthier. This I have no means of verifying.

I am, Sir, yours faithfully,

Swindon, Oct. 24th, 1927. A. R. MCCLURE, M.B.

ADRIAN STOKES MEMORIAL FUND.

To the Editor of THE LANCET.

SIR,—At a meeting held in Trinity College, Dublin, on Oct. 17th, with the Provost in the chair, it was decided to inaugurate a memorial to the late Prof. Adrian Stokes, who died of yellow fever, contracted during research work on that disease in Lagos.

It was the opinion of the meeting that Stokes's connexion with Dublin and with Trinity College—as student, as assistant to the professor of pathology, and as professor of bacteriology—could best be commemorated by the foundation of a scholarship, prize or medal, in connexion with the study of pathology and bacteriology in Dublin University. An executive committee was appointed and was empowered to collect funds and to consider a suitable form of memorial, the exact form of which will depend on the amount collected.

Those who would like to take part in the establishment of such a memorial to one of Trinity's ablest and most loved sons are invited to send their subscriptions to the hon. treasurers of the fund: Mr. Robert Russell, S.F.T.C.D., and Prof. A. F. Dixon, Sc.D.—We are, Sir, yours faithfully,

SETON PRINGLE, F.R.C.S.I.,
JOSEPH W. BIGGER, M.D.,
Hon. Secs.

School of Pathology, Trinity College, Dublin, Oct. 19th, 1927.

BILATERAL ARTIFICIAL PNEUMOTHORAX

To the Editor of THE LANCET.

SIR,—The very interesting account by Dr. McLaughlin in your issue of Oct. 1st of a case of bilateral pulmonary tuberculosis treated by bilateral artificial pneumothorax credits me with having been the first to publish the method. I always thought this was so until recently, when it was brought to my notice that Prof. Ascoli,[1] of the University of Catania, Sicily, proposed it at the International Tuberculosis Congress held in Rome in 1912, the year in which I treated my first case. The reasons he gave for the treatment, with an account of cases treated, were reviewed by his pupil, Fagiuoli,[2] in 1914. Ascoli argued that since a pneumothorax was pathological, in a case of tuberculosis treated by pneumothorax, two pathological conditions were present; that complete collapse might, therefore, make the conditions worse than those it was intended to relieve, and that better results would likely be obtained by bilateral "low pressure pneumothorax." On the other hand, I maintained that in consequence of the pressure in the pneumothorax being the same throughout the cavity, a differential effect which has been termed "selective pneumothorax"[3] or "pneumothorax electif"[4] is produced, and that this results in the lung expanding according to its elasticity. The healthy parts, therefore, expand freely, bulging into the cavity and displacing the gas which finds lodgment over the diseased parts. These having lost their expansile properties remain quiet instead of being pulled against the expanding chest wall. If these points of view are considered, I think it will be generally conceded that that of Prof. Ascoli is largely empirical, while mine has a definite physical basis, which brings the method of treatment into line with the rest treatment of other forms of tuberculosis. However, to Prof. Ascoli must be given the credit of having first published the method.

I am, Sir, yours faithfully,

WM. PARRY MORGAN.

Welsh National School of Medicine, Cardiff, Oct. 22nd, 1927.

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[1] Ascoli, M.: Deutsche med. Wchnschr., 1912, xxxviii., 1782–1784.

[2] Fagiuoli, A.: Ztschr. f. Tuberk., 1914, p. 547–559.

[3] Barlow and Cramer: Amer. Rev. Tub., 1922, vi., 75.

[4] Bernou, A.: La Vie Médicale, Oct. 24th, 1924.

THE BIRTH CONTROL INVESTIGATION COMMITTEE.

To the Editor of THE LANCET.

SIR,—There is no reasonable doubt that birth control is practised by a large number of married people of all classes. It is to be supposed that the usage may have important effects on the physical, psychological, and ethical well-being, not only of the individuals who employ it, but also indirectly on the well-being of the children of those persons, and therefore of the whole community. It is also probable that if birth control is desirable, some methods are to be preferred to others, yet up to the present little scientific study has been made, either of the comparative advantages of different methods, or of the possible far-reaching effects of the practice as a whole.

The subject of birth control has, hitherto, not formed part of medical education, and, generally speaking, any professional knowledge that medical practitioners may have of this question has been acquired in response to a demand from their individual private patients. In hospitals and medical schools, general instruction in this subject is not as a rule given to the students, nor information to patients. Yet it is well known that in certain cases of ill-health further pregnancies are clearly contra-indicated on medical grounds alone.

A committee composed of scientific workers and members of the medical profession, assisted by lay workers and others interested in the problem, has been formed to promote the scientific investigation of birth control. The members of the committee differ widely in their opinions as to the desirability of birth control, but are united in the realisation that the practice is widespread, and that the scientific problems which it raises can no longer be ignored. It is realised that the results of the investigation may show that no entirely satisfactory method has at present been discovered, and work is being done to find new methods. It is hoped also that relations may be established with clinics and other organisations connected with birth control abroad, so that their experience and knowledge may be used.

The committee serves no propagandist function, but desires only to establish facts and to publish these facts as a basis on which a sound public and scientific opinion can be built. The present division of medical opinion and the lack of any orthodox medical teaching on the subject are largely explained by the absence of available data, on which a sound opinion can be formed. The committee will be grateful if any of your readers who may be interested in the subject, or who possess data that would yield information, would communicate with the honorary secretary of the committee, the Hon. Mrs. Marjorie Farrer, 41B, Clanricarde-gardens, London, W. 2.

A questionaire has been prepared by the committee which, if filled in in sufficient numbers and in a sufficient variety of cases, will provide that quantity of accurate statistical information which is now lacking. As many of these questionaires as may be required will be sent to any private doctor, hospital, welfare centre, or infirmary, on application to the honorary secretary of the committee.

I am, Sir, yours faithfully,

HUMPHRY ROLLESTON,
Chairman.

Oct. 25th, 1927.

PAYMENT TO HOSPITALS FOR MOTOR ACCIDENTS.

To the Editor of THE LANCET.

SIR,—At a meeting of the Norfolk and Norwich Hospital authorities reported in THE LANCET on p. 892 last week, "it was pointed out that a private practitioner to whose surgery a motoring victim was taken could send his bill to the insurance company, and that the hospital could put itself in the same position as a private practitioner by sending all its motor cases to the new paying ward."

It would be of great interest to hear whether this statement is based on legal opinion, and if so, to read the question submitted together with the answer given. Up to now it has always been taken that the contract, if any, is between the private practitioner and the victim, and that the same situation applies in the case of the voluntary hospital, whether the victim goes to the general or private wards. But in the majority of cases the victim is not in a condition to enter into any contract before treatment and therefore a legal contract cannot be brought into existence. How will putting the victim in a private bed get over the difficulty?

I am, Sir, yours faithfully,

Hove, Oct. 25th, 1927. E. ROWLAND FOTHERGILL.

"HIVES."

To the Editor of THE LANCET.

SIR,—In THE LANCET of Sept. 24th, p. 664, in a notice of Dr. W. W. Duke's book on "Allergy and Anaphylaxis," your reviewer asks for a definition of the uncommon expression "hives." This is but one of the many words, now considered American, which were once common in this country, and are still to be heard as local idiom. "Hives" is the current term in Ulster and probably elsewhere for the urticarial eruption produced by the harvest bug (*Leptus autumnalis*). It thus comes to mean any mild vesicular eruption produced in protein-sensitive testing. I am, Sir, yours faithfully,

J. JOHNSTON ABRAHAM.

Harley-street, W., Oct. 25th, 1927.

THE CASE OF GEORGE JORDAN.

To the Editor of THE LANCET.

SIR,—This case of an ex-Service man who received a shrapnel wound of the head during the war (a fragment remaining in the brain which could not be removed by operation) which produced occasional attacks of Jacksonian epilepsy and mania, during one of which he violently assaulted a fellow traveller in a railway carriage, must give every ex-Service medical man furiously to think.

As the result of this assault he was sentenced to 18 months' imprisonment and was, shortly after the commencement of his sentence, certified to be a criminal lunatic. His widow, in giving evidence at the inquest on his suicide, said that she was not permitted to give evidence at his trial, but that the judge was aware of his war wound and said: "If he had not been wounded in the war he would have been ordered a flogging." Apparently no medical witness appeared at the trial. Neither, apparently, did the prison medical officer take any steps to draw the attention of the Home Office to this intolerable miscarriage of justice, although a party to certifying the man as a criminal lunatic.

It is to be hoped, in the cause of justice and competency, that this case will be fully investigated, and both judge and police and prison medical officers be given an opportunity of explaining their apparently inexplicable conduct.

I am, Sir, yours faithfully,

H. WANSEY BAYLY.

Harley-street, W., Oct. 21st, 1927.

*** We comment on this case elsewhere.—ED. L.

THE REPORT ON SCARLET FEVER.

To the Editor of THE LANCET.

SIR,—I have to thank Dr. J. A. Milne for drawing attention to an error on page 9 of the recently issued report of the Ministry of Health on scarlet fever. Carbolic lotion 10 per cent. is there referred to, instead of carbolic oil, as it should have been written and is written on other pages which described the technique of the Milne treatment as introduced by his father, the late Dr. Robert Milne.

I am, Sir, yours faithfully,

Oct. 24th, 1927. ALLAN C. PARSONS.

MISLEADING QUALIFICATIONS.

To the Editor of THE LANCET.

SIR,—All Fellowships in medicine and surgery rank as higher qualifications, and the vast majority of Fellows of the Irish and Edinburgh Royal Colleges of Surgeons take pride in their particular Fellowship by using the correct letters F.R.C.S.I. and F.R.C.S.Ed. In the surgical world the English Fellowship is recognised to be the highest surgical distinction; it is a compulsory passport to admission to honorary surgical appointments in all teaching English hospitals, and many Edinburgh and Irish Fellows endeavour to obtain it after acquiring their own. It is doubtful if the Edinburgh Fellowship can be regarded as a purely surgical distinction; it is open to practitioners practising dentistry, midwifery, gynæcology, and other kindred subjects on examination in their own specialty plus an examination in general surgery, and there is no primary examination in anatomy and physiology, nor a compulsory examination in operations on the dead body.

In regard to designations, F.R.C.S. states that a Doctorate of Medicine is on a parallel with a Fellowship. A doctorate once conferred cannot be taken away; a Fellow can be deprived of his Fellowship on infringement of the particular regulations pertaining to his own College. A truer comparison in terms used is that between Fellowships of other Royal Colleges or Societies. In regard to science distinctions, the Fellowships of the Royal Society of Edinburgh and of the Royal Society, London, are high distinctions, but the latter, of course, by far the more exclusive; F.R.S.E. is rigidly used in designating the former; to omit the E is to presume a much higher distinction.

Similarly in England anyone who is not an English Fellow, but who designates himself only as F.R.C.S. in hospital and other publications, renders himself subject to the suggestion that he wishes the public to think, as in point of fact they do, that he is in possession of the higher qualification. This is misleading; is it not unethical?

As this subject involves all the Fellowships, it is one which could be settled by the councils of the Royal Colleges concerned by a mutual agreement on the designations which they expect the various Fellows to adopt.—I am, Sir, yours faithfully,

Oct. 17th, 1927. ETHICS.

To the Editor of THE LANCET.

SIR,—I read with interest the remarks of F.R.C.S. in your issue of Oct. 15th. There is still an idea prevalent in London that the Edinburgh F.R.C.S. is a walk-over. If anyone goes up with that idea he will get a rude shock and a polite request to come again. As far as I am able to judge there is no material difference between the standard of the Edinburgh F.R.C.S. and the final of the F.R.C.S. Eng.; indeed the requirements in pathology are often considered to be higher in the Edinburgh examination.

I am, Sir, yours faithfully,

Oct. 19th, 1927. NOT YET F.R.C.S.

Obituary.

THE LATE MAJ.-GEN. SIR WILLIAM MACPHERSON.

Sir Patrick Hehir writes: "I esteem it a great favour to be allowed to add a few remarks regarding the late Maj.-Gen. Sir William G. Macpherson to the comprehensive obituary notice that has appeared in THE LANCET.

"Macpherson and I became friends in 1906 after his return from the Russo-Japanese War, and subsequently we worked together on medical manœuvres and exercises on the ground without troops on large and medium scales. During these exercises he acted as Medical Director-in-Chief and, years before the Great War we were already (on paper) using hospital trains, ambulance columns, hospital ships on rivers and other appurtenances of modern warfare. One of these exercises has particular interest. It was carried out in March, 1913, and was the invasion of Afghanistan, on which I was acting as D.D.M.S., L. of C. We were supposed to start from Peshawar early in February and march into Cabul on June 26th. At the close of that imaginary campaign I had several ambulance columns, two ambulance trains, and two hospital ships on the Cabul River. By an extraordinary coincidence I was P.M.O. of the 1919 Afghanistan campaign, and although we did not advance beyond Dacca, the war, from the medical point of view, was conducted on much the same lines as in the exercise referred to, the only notable difference being that the river was not used as it is only navigable in the early months of the year; the 1919 campaign began in May and ended in August.

"During the Great War we were brought into intimate relations. I was attached to Lieut.-General Sir Arthur Sloggett, Director of Medical Services of the Armies in France, for instructional purposes. I saw what was being done with the 21 hospital trains, the 15 ambulance columns, the clearing hospitals, and field ambulances of the British Armies at the beginning of the second Somme enterprise. The way these were being concentrated behind the front lines at the exact spots necessary, as if by magic, was medical efficiency in the field developed to the highest pitch of perfection. In his war work Macpherson was a constant source of inspiration to others."

Westward Ho, Devon, Oct. 23rd, 1927.

JOHN RUDD LEESON, M.D. EDIN., J.P.

Dr. J. R. Leeson's death on Oct. 23rd removes a medical man with a high record of public service. His early years as a student are described in a book published last spring at the time of the Lister centenary. Born in 1854 he entered St. Thomas's Hospital about the time when the new buildings by Westminster Bridge came into use, and he could testify from personal experience to the ravages of septic diseases even in institutions whose arrangements were as perfect as they could be made before the recognition of Lister's discoveries. In those days the medical curriculum occupied only two and a half years, the first of which was spent in dissection and attending lectures. Towards the end of this training Leeson asked a member of the staff, the great Charles Murchison, how best he should spend the remainder and Murchison unexpectedly advised him to go to Edinburgh and study the new methods of Prof. Lister. He took this advice and in 1873 became one of Lister's dressers, soon falling under his influence and becoming an earnest disciple. After qualification in 1875 and study at Vienna and Berlin, he returned to London to join the resident staff of St. Thomas's Hospital, where he became demonstrator in anatomy in 1878. He served for a time as ship's surgeon, graduated as M.D. Edin. with commendation in 1882, and settled in practice at Twickenham, where he spent the rest of his life, being associated especially with the St. John's Hospital and the Metropolitan and City Police Orphanage. Always a keen observer, Dr. Leeson wrote freely not only on medical subjects, but on geology and natural history. He was a Fellow of the Royal Astronomical, Royal Microscopical, Geological, and Linnean societies, and was also interested in many aspects of social work. At the time of his death, in his seventy-fourth year, he was Mayor of Twickenham, a magistrate for Middlesex, and a member of the Court of the Salters' Company.

Dr. Leeson was twice married. His son, Mr. Spencer Leeson, is headmaster of Merchant Taylors' School.

Medical News.

UNIVERSITY OF DUBLIN: SCHOOL OF PHYSIC, TRINITY COLLEGE.—At recent examinations the following candidates were successful:—

FINAL MEDICAL EXAMINATION.

Part I. Materia Medica, Medical Jurisprudence, Pathology, &c.—M. H. Fridjhon, R. St. J. Lyburn, H. T. Fleming, W. R. Johnston, J. N. U. Russell, J. E. C. Cherry, A. J. Garde, R. M. Wilson, C. R. Harris, R. I. Reid, C. King, J. F. K. MacCarthy-Morrogh, A. H. O'Malley, Anna M. J. M'Cabe, and F. S. Mackenna.

DIPLOMA IN PUBLIC HEALTH.

Part II.—Kathleen M. Kennedy, Meave Halligan, Sarah M. Coghlan, and Brenda M. Young.

UNIVERSITY OF EDINBURGH.—At a graduation ceremonial held on Oct. 22nd the following diplomas were conferred:—

D.P.H.—Walter T. de Silva, Eric F. Dott, Ronald A. Macdonald, Donald P. MacIver, John Macleod, and Elizabeth P. M'Whirter.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, ROYAL COLLEGE OF SURGEONS OF EDINBURGH AND ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At recent examinations the following candidates were approved:—

FINAL EXAMINATION.

M. M. Wright, F. A. Buttner, Theophilus Lotter, M. A. H. Gohar, K. R. Mali, G. D. Roche, M. M. Farghaly, K. R. Trembath, P. McK. Logan, Samuel Jurawan, T. B. Dobson. Supiramamain Kulanthaivalu, Ponniah, Ram Chandra Adhikari, John S. T. Isbister, George M. Johnson, Clarence D. C. Golding, Albert A. Huse, Sandaman Sivalingam, Ramanather Kandish, Suppiah Kanagalingam, Israel, Gurland, Edmund A. Bulankulane, Arnold W. Green, Bola Dayanand Rao, Walter Campbell, Alexander C. Lovett-Campbell, William Jackson, Joseph W. A. McGuinness, Adam S. Gordon, Thomas A. W. Wilson, William T. A. Pearce, Tan Chang Yan, Geoffrey W. Milledge, William Ainslie, and Alfred Bitini Xuma.

Medicine.—Ellaman Siva Rama Menon, Mohamed Ralman Ramjohn, Arthur B. Anderson, Herbert F. W. Slane, Ramchandra Ganesh Paranyape, Bertram J. Ess, Simathamby Chelliah, Veerasekeram Sinnetamby, and John E. Felix.

Surgery.—David A. Herd, Frederick H. Emery, James Masilamani, Maurice Klar, and William Wallace.

Midwifery.—David A. Herd, Cyril A. Munro, Agnes Donaldson, Ellaman Siva Rama Menon, Sundar Singh Nagi, Arthur B. Anderson, Herbert F. W. Slane, Sinnethamby Chelliah, Joseph M. Chittambatam, Hubert Lelizab Clement de Silva, and George R. Gardner.

Medical Jurisprudence and Public Health.—George Henderson, Norman J. W. Smith, Matthew I. Mullen, Ewen L. Fraser, Andreas Johannes de Villiers, Ramchandra Ganesh Paranyape, Wilfred Kelly, Gavin W. Campbell, and Mark Lessnoff.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College held on Oct. 19th Mr. Alexander Miles was elected President for the ensuing year, Dr. A. Logan Turner Vice-President, and Mr. John William Struthers Secretary and Treasurer.—The following 25 successful candidates, out of 93 entered, who passed the requisite examinations on July 28th, were admitted Fellows:—

John M. Bassett, William A. Blomfield, William M. Brown, John H. Couch, Albert F. W. da Costa, Hari Dass, George F. Duggan, Caroline A. Elliott, Gilbert M. Irvine, William H. G. M. Ling, Henry C. Lowry, Robert R. Macintosh, Ian Macpherson, Richard B. Martin, Robert S. Melville, Angus J. Murray, John S. Ramage, Bunganath Krishna Rau, Eugene J. Ryan, Richard Vyayaratram Nevins Selvadural, Matthew A. Swan, Thomas E. Stoker, Beriah M. G. Thomas, James Troup, and James N. Young.

At recent examinations the following candidates were successful:—

FINAL EXAMINATION FOR L.D.S.

Athelston E. Thornhill, Robert C. B. Heele, Norman A. W. Ramage, Gladys E. Munro, Alastair D. Walker, Annie M. Kean, Charles J. Hodge, Alexander H. Brown, and Thomas S. Macfarlane.

Pathology.—Mary M. Hunter, Francis P. MacGillivray, Ronald McA. Blair, William G. Hetherington, Joseph G. Medcalf, Jean F. Miller, and Roger H. White.

Medicine.—Mary M. Hunter, William G. Hetherington, and Robert M. Cameron.

Surgery.—Mary M. Hunter, William G. Hetherington, and Robert M. Cameron.

Dental Subjects.—Ronald D. Allison and Thomas W. Gregory.

BRISTOL GENERAL HOSPITAL NURSES' HOME.—Sir George Wills has presented a home for the nursing staff in memory of his wife. The building, which will be known as the "Susan Brittan Wills Home," and has just been opened, will accommodate 31 nurses.

SOCIETY OF APOTHECARIES OF LONDON.—At recent examinations the following candidates passed in the undermentioned subjects:—

Surgery.—R. P. Charles, King's College and Charing Cross Hosps.; H. J. Harcourt, St. Thomas's Hosp.; B. D. Jain, Charing Cross Hosp.; D. I. Jones, University College and St. George's Hosps.; T. M. Joseph, London Hosp.; and L. M. Saunders, Manchester.

Medicine.—J. D. Evans, St. Mary's Hosp.; G. Furniss, Manchester; S. Goldman, London Hosp.; F. G. Hardaker, St. Mary's Hosp.; A. W. Lassowsky, Middlesex Hosp.; J. D. Ritchie, St. George's Hosp.; G. C. Rhys-Jones, Charing Cross Hosp.; and S. Slotar, Guy's Hosp.

Forensic Medicine.—H. B. Blaker, St. Mary's Hosp.; J. D. Evans, St. Mary's Hosp.; T. M. Joseph, London Hosp.; J. D. Ritchie, St. George's Hosp.; B. Rosenzvit, Middlesex Hosp.; A. E. Vawser, London Hosp.; and L. Wasef, Manchester.

Midwifery.—G. E. Bent, Manchester; H. B. Blaker, St. Mary's Hosp.; H. M. Feldman, Leeds; D. I. Jones, University College and St. George's Hosps.; A. A. Leibovitch, Kharkoff and London Hosp.; H. T. Rylance, Middlesex Hosp.; and V. R. Smith, Manchester.

The Diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: R. P. Charles, J. D. Evans, S. Goldman, F. G. Hardaker, B. D. Jain, G. C. Rhys-Jones, J. D. Ritchie, B. Rosenzvit, S. Slotar, and V. R. Smith.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE. The lecture-demonstrations given twice a week at the College are open to practitioners who are not taking the regular post-graduate courses. Particulars may be found in our Medical Diary week by week.

HUNTERIAN SOCIETY.—On Monday, Nov. 7th, at 9 P.M., at the Cutlers' Hall, there will be a discussion on the Legal Perils of the Doctor. The speakers will include Earl Russell, Dr. James Neal, Mr. Rayner Goddard, and Sir Herbert Waterhouse.

ROYAL SANITARY INSTITUTE.—A sessional meeting will be held at 90, Buckingham Palace-road, London, S.W., on Tuesday, Nov. 8th, at 5.30 P.M., when Major H. Barnes will give an address entitled the Royal Commissions on Health and Housing: A Retrospect and a Forecast.

ROYAL SOCIETY OF ARTS.—On Wednesday, Nov. 16th, at 8 P.M., Dr. Leonard Hill, F.R.S., will give an address on Overcrowding in Public Conveyances. The meeting will be held at the Society's House in John-street, Adelphi, London, and Lord Dawson will take the chair.

NATIONAL ASSOCIATION FOR THE PREVENTION OF INFANT MORTALITY.—A course of lectures, for married people only, on the Hygiene of Married Life and Parenthood will be given at Carnegie House, 117, Piccadilly, London, W., on Wednesdays from Nov. 2nd to Dec. 7th, from 8.30 to 9.30 P.M. The lecturers will be Prof. Winifred Cullis (Nov. 2nd), Lady Barrett (Nov. 9th), Dr. J. S. Fairbairn (Nov. 16th), Dr. Eric Pritchard (Nov. 23rd), Dr. C. W. Kimmins (Nov. 30th), and Prof. Louise McIlroy (Dec. 7th).

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—On Monday, Oct. 31st, at 5 P.M., at 11, Chandos-street, Cavendish-square, London, Mr. Lawrence Abel will deliver a lecture entitled, Points in the Diagnosis and Treatment of Pyuria. On the same day Dr. Donald Paterson will give a medical demonstration at the Hospital for Sick Children, Great Ormond-street, at 2.30 P.M., and Mr. Bright Banister a surgical demonstration at the Chelsea Hospital for Women at 2 P.M. The lecture and demonstrations are open to members of the medical profession without fee. Two courses begin on Oct. 31st—viz., a four weeks' course at the London Lock Hospital, and a fortnight's course at the Hampstead General Hospital for general practitioners. From Nov. 7th to 12th the Hospital for Diseases of the Chest, Brompton, will provide a comprehensive course. From Nov. 14th to 26th there will be a clinical course at St. Peter's Hospital, together with a series of formal lectures on diseases of the urinary tract. From Nov. 14th to Dec. 3rd a course in medicine, surgery, and gynæcology will be held at the Royal Waterloo Hospital, occupying the mornings and some afternoons. For those having only a short time at their disposal the following two courses have been arranged: from Nov. 21st to Dec. 17th, at 5 P.M. daily, a series of clinical demonstrations upon selected cases will be given in the out-patient department (in Welbeck-street) of the West End Hospital for Nervous Diseases, and from Nov. 21st, daily from 4.30 to 6 P.M., for two weeks, there will be a course at the London Temperance Hospital for practitioners. A course will be given at St. Mark's Hospital from Nov. 28th to Dec. 3rd. Copies of syllabuses are obtainable from the Secretary of the Fellowship at 1, Wimpole-street, London, W. 1, and will be sent regularly to those who wish to receive them.

IT is stated that the Mutual Property Insurance Company's film, "The Risk of Diphtheria Banished," has now been shown to more than 119,000 people.

THE cost of rebuilding the west wing of Middlesex Hospital will be £241,511, and it is expected that the work will occupy two years.

NATIONAL MEMORIAL TO QUEEN ALEXANDRA.—Nearly £8000 has been produced by the opening of gardens in England and Wales for the benefit of this memorial.

HELLINGLEY MENTAL HOSPITAL.—The Bishop of Lewes has unveiled in the Chapel of St. Luke at Hellingley Mental Hospital a stained-glass window provided by subscriptions from the patients and staff and sundry friends. The designer was Mr. Percy C. Bacon.

DONATIONS AND BEQUESTS.—Mrs. Florence Baines, Adel, Leeds, left £1000 to Leeds General Infirmary and £500 to the Leeds United Institute for the Blind, Deaf and Dumb, and £100 each to the Meanwood Convalescent Home for Children, and the Leeds District Nurses' Association.

ORDER OF ST. JOHN.—As a result of the new charter which the King granted last year a new system of ranking was introduced, and some 120 honorary associates have been transferred to the grade of officers, taking rank immediately after commander. The names of these ladies and gentlemen appeared in the *London Gazette* of Oct. 21st.

UNIVERSITY OF CAMBRIDGE.—Mr. Ernest Clarke, C.V.O., F.R.C.S., consulting surgeon to the Central London Ophthalmic Hospital, and President of the Section of Ophthalmology of the Royal Society of Medicine, has been elected an honorary Fellow of Downing College.

UNIVERSITY OF BIRMINGHAM.—A series of four lectures for dental practitioners will be delivered at the Dental Hospital, Great Charles-street, Birmingham, at 5 P.M. on Thursdays, Nov. 17th and 24th, and Dec. 1st and 8th. Particulars may be had from the clerk to the Dental Board at the University.

MEDICAL AND VETERINARY CONGRESS IN MOROCCO. A congress to be known as Journées Médicales et Vétérinaires Marocaines will be held next Easter (April 3rd to 8th) at Casablanca and Rabat. Among those who will take part are Prof. Leriche, Prof. Calmette, Dr. Ramon, Prof. Lardennois, Prof. Cruchet, and Prof. Vallée. Particulars may be had from Dr. Lepinay, rue de Marseille, Casablanca.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.—The following appointments have been made: Mr. Reginald Lovell, M.R.C.V.S., D.V.S.M. Manch., research assistant in comparative pathology; Mrs. M. M. Smith, M.A., demonstrator in bacteriology; and Miss H. M. Woods, F.S.S., assistant lecturer in the division of epidemiology and vital statistics. Mr. W. Rees Wright, M.Sc., has been appointed to a temporary research post, for the purpose of continuing Dr. P. A. Buxton's investigations on the biology of stegomyia.

BRITISH ORTHOPÆDIC ASSOCIATION.—On its visit to Bath on Oct. 22nd, this Association was entertained to luncheon in the Guildhall by the mayor, Alderman Cedric Chivers, who was himself unable to be present owing to illness. The mayoress, Madame Sarah Grand, said that she wished that all people unconnected with hospitals could see the Orthopædic Hospital at Bath, for to her the cures effected there were among the most marvellous results of surgery. After lunch the members of the Association visited this hospital and returned to the Old Baths for the opening ceremony, which was performed by Councillor Hacker. He said that that day they were celebrating the 150th anniversary of the reconstruction by Sir John Wood (junr.), of the King's Bath, which actually dated back to the times of the Saxons. The Hot Bath might certainly be as old. In the days of the Normans, Robert of Lewes, the bishop of the town (city) built a small lepers' bath adjoining the Hot Bath for the relief of sufferers from the various skin diseases which were then rife. That bath was used with various alterations until 1777, when John Wood, the younger, prepared designs for the Corporation for a new hot bath. In his report, written 150 years ago, he had said that they could not but flatter themselves that the Corporation of Bath, who had already so eminently distinguished themselves in providing that small bath for the use of the public, would turn their attention to the larger ones, and would think it their duty to render the use of the salutary waters as extensive as possible, in gratitude for the blessings of the hot springs. They had every reason to be proud of the record of the Baths' Committee within the last few years, for the town was meeting foreign competition by becoming more and more attractive, and by increasing in efficiency as a place of healing.

WOOLWICH AND DISTRICT WAR MEMORIAL HOSPITAL.—This hospital at Shooter's Hill will be opened by the Duke of York on Wednesday, Nov. 2nd, at 2.45 P.M.

Dr. Abraham Flexner, of the Rockefeller General Education Board, has accepted the invitation of the Vice-Chancellor of the University of Oxford and the Rhodes Trustees to be the Rhodes memorial lecturer for the year 1928.

UNIVERSITY OF LONDON ANIMAL WELFARE SOCIETY. Prof. F. T. G. Hobday will take the chair at a public debate on Humane Slaughtering, to be held at Birkbeck College, Bream's Buildings, E.C. 4, at 8 P.M. on Friday, Nov. 4th. The address of the Society's hon. secretary is 14, The Hawthorns, Finchley, N. 3.

SCARCITY OF DENTISTS.—Mr. W. Malcolm Knott, chairman of the Surgical Committee, presided recently at the distribution of prizes to successful students of Birmingham Dental Hospital and School. He said that the number of students in the school might well be doubled. To make good the losses on the Dental Register, by death and retirement from practice, an annual addition of 625 dental surgeons was needed, whereas the present addition was only 450; this year, indeed, there would be only 380 accessions. In five years' time the scarcity would amount to over 1000 men.

LONDON CLINIC FOR ARTIFICIAL SUNLIGHT TREATMENT.—Under the auspices of the British Humane Association, which was inaugurated in 1923 by Mr. Campbell Johnson, with the object of promoting better health education among the poor in all parts of the world, the London Clinic was opened in Ranelagh-road, Pimlico, London, by Princess Louise, Duchess of Argyll, on Oct. 26th. The new establishment is the outcome of a small clinic held in one room at Tufton-street, the work of which so grew that larger premises became necessary. In addition to sunlight treatment there are rooms for diathermy, massage, and electrical treatment generally, though no provision at present has been made for an X ray instalment. Dr. Edward James Deck is the medical superintendent, and it is intended that the institution should run on lines similar to those of a general hospital, patients being seen by an almoner, in order to prevent abuse of charity.

CHELSEA CLINICAL SOCIETY.—At the annual dinner held on Oct. 25th at the Café Royal, the President, Dr. L. D. Bailey, responding to the health of the Society, proposed by Alderman Jefferson Hogg, said that there were now 150 members, more than half of whom lived outside Chelsea. The Society was in its twenty-ninth year; it was one of the best fraternities in London, and every one of its members was keen. Dr. F. J. McCann, proposing the health of the Kindred Societies, referred to the dinner meetings of the Chelsea Clinical Society and contrasted them with earlier occasions, when it was difficult to induce the weary, worn, and sometimes dinnerless doctor to attend. This was an age of short speeches and short stories, and the main defect of English medical men, as seen at congresses abroad, was their failure to show pictures or objects that would catch their hearers' interest. Mr. Mortimer Woolf, replying as President of the Hunterian Society, said that in preparing a speech the rule was to have ready the first and last sentences, and he wondered whether they ought not to be consecutive. He spoke of John Hunter's relations with St. George's Hospital. Mr. Ivor Back, proposing the health of the Guests, was reminded of George III., who was shown a list of the generals who had been selected to fight Napoleon. "I do not know what effect they would have on Napoleon," said he, "but by God they frighten me." He described a recent interview with an American patient to whom he recommended operation. "Yes, Sir," said the patient, "but there's only one surgeon can operate on me and that is the surgeon who can run faster than I can." Sir William Orpen referred to the number of the guests present and was reminded of a man who ordered 12 poached eggs in the hope that one might be good. Dr. Leonard Huxley, after an amusing analysis of his relations with doctors, spoke of the respect in which they were held by Robert Louis Stevenson and Dr. Johnson. Mr. J. Hugh Edwards, M.P., said that for some reason the public had more faith in doctors than politicians, though he could not understand why. If a Member of Parliament had claimed to have swum the Channel no one would have believed him. He was glad that leading members of the medical profession had ceased to fling chunks of wholemeal bread at one another in the press and had surrendered their pitch to the Bishops. Mr. Alan Hogg spoke of the value of medical work in Africa. Dr. Ernest Young proposed the Health of the President, which was drunk with musical honours, and Dr. Bailey, in turn, proposed the Health of the Officers, to which Dr. Eckenstein responded.

LONDON HOSPITAL DINNER.—The annual dinner of old students was held at the Trocadero Restaurant on Oct. 20th, Dr. Angus Kennedy in the chair. Proposing the health of the hospital, Dr. Kennedy referred to the loyalty which it evoked and the training which it gave; the most enduring friendships of his life had been formed there. When he was a resident 35 years ago conditions had been very different from what they were now; in those days the steak had been so toxic as not to be eatable and no one faced dinner in hospital if he had earned a fee which would pay for it somewhere else. Dr. Russell Andrews complimented Dr. Kennedy on his recent success in catching burglars much younger than himself, and told a number of his receiving-room stories to an audience which always asked for more. After the Chairman's health had been drunk with musical honours, the diners left their tables and the rest of the evening was spent according to temperament. In view of Lord Dawson's recent comments in the House of Lords on the growing sobriety of the younger generation it was interesting to note that the residents were distinctly quieter than last year.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY, Burlington House, Piccadilly, W.
THURSDAY, Nov. 3rd.—4.30 P.M., Prof. Hans Spemann: Organisers in Animal Development (Croonian Lecture).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.
TUESDAY, Nov. 1st.—5.30 P.M., ORTHOPÆDICS. (Cases at 4.30 P.M.) Cases: Mr. Alan Todd: Dupuytren's Contracture in a Girl of 15. Mr. Rowley Bristow: Anatomical Variation of the Semilunar Cartilage. Mr. St. J. D. Buxton: Two Cases of Fibrocystic Disease of the Humerus. Other cases will be shown. 8.30 P.M., PATHOLOGY. Laboratory Meeting at the Middlesex Hospital, W. The Library will be open until 10 P.M.
WEDNESDAY.—5 P.M., HISTORY OF MEDICINE. Papers: Mrs. Singer and Mr. R. Steele: The Emerald Tablet of Hermes. Mr. W. Dawson: Mummies as a Drug. Members are invited to bring objects, books, prints, documents, instruments, medals, &c., of historical interest, for exhibition at the meetings of this Section. 8.30 P.M., SURGERY (at the Royal College of Surgeons, Lincoln's Inn-fields). Paper: Sir Arthur Keith: Concerning the Origin and Nature of Osteoblasts.
THURSDAY.—8.15 P.M., TROPICAL DISEASES. Paper: Dr. Aldo Castellani: Blastomycosis Cutis. Other short papers will be read.
FRIDAY.—5 P.M., LARYNGOLOGY. (Cases at 4 P.M.) Cases and specimens will be shown by Sir StClair Thomson, Mr. Bell Tawse, Mr. Vlasto, Mr. Herbert Tilley, Mr. Harold Kisch, Mr. T. B. Layton, Sir James Dundas-Grant, and others. 8.30 P.M., ANÆSTHETICS. Presidential Address: Dr. Cecil Hughes: The Present Position of Spinal Anæsthesia. The Library will be open until 10 P.M.
SATURDAY.—10.30 A.M., OTOLOGY. (Cases at 9.30 A.M.) Presidential Address: Dr. J. S. Fraser: A National Investigation of Otosclerosis. Cases and specimens will be shown by Mr. R. J. Cann (introduced by Mr. T. B. Layton), Mr. Norman Barnett, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.
MONDAY, Oct. 31st, to SATURDAY, Nov. 5th.—FELLOWSHIP OF MEDICINE. Special lecture at the Medical Society, 11, Chandos-street, Cavendish-square, W., Mon., 5 P.M., Mr. Lawrence Abel: Points in the Diagnosis and Treatment of Pyuria.—CHELSEA HOSPITAL FOR WOMEN, Arthur-street, S.W. Special surgical demonstration by Mr. Bright Banister at 2 P.M. on Mon.—HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C. Special medical demonstration by Dr. Donald Paterson at 2.30 P.M. on Mon. (The above are open to the medical profession without fee.)—LONDON LOCK HOSPITAL, Dean-street, W. Comprehensive course for one month; clinical instruction and formal series of lectures.—HAMPSTEAD GENERAL HOSPITAL, Haverstock-hill, N.W. Special course for general practitioners, 4.30 to 6 P.M.—NATIONAL HOSPITAL, Queen-square, W.C. Special post-graduate course in Neurology. Further information from the Secretary, Mayfair 2236.

WEST LONDON HOSPITAL, POST-GRADUATE COLLEGE, Hammersmith, W.
MONDAY, Oct. 31st.—11 A.M., Mr. Tyrrell Gray: Surgical Wards. 2 P.M., Mr. Armour: Operations. 4.30 P.M., Mr. Addison: Tumours of the Breast (lecture).
TUESDAY, Nov. 1st.—10 A.M., Medical Registrar: Ward Demonstration. 2 P.M., Mr. Sinclair: Surgical Out-patients. 4.30 P.M., Dr. Owen: Infant Feeding (lecture).
WEDNESDAY.—10 A.M., Dr. Owen: Medical Diseases of Children. 10 A.M., Dr. Bumford: Medical Wards. 2 P.M., Dr. Scott Pinchin: Medical Out-patients.
THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Department. 2 P.M., Dr. Ironside: Medical Out-patients. 3 P.M., Sir H. Simson: Gynæcological Ward.
FRIDAY.—10 A.M., Dr. Dowling: Skin Department. 2 P.M., Mr. Tyrrell Gray: Operations. 4.30 P.M., Mr. Sinclair: Gall-stones (lecture).
SATURDAY.—9.30 A.M., Dr. Burnford: Bacterial Therapy and Ward List. 10 A.M., Dr. Owen: Medical Diseases of Children.
Operations, Medical, Surgical, and Special Out-patients, daily 10 A.M. to 5 P.M.; Saturdays, 10 A.M. to 1 P.M.

ROYAL NORTHERN HOSPITAL, Holloway, N.: POST-GRADUATE COURSE.
TUESDAY, Nov. 1st.—3.15 P.M., Mr. L. E. Barrington-Ward: Chronic Indigestion Considered Surgically.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.
THURSDAY, Nov. 3rd.—4 P.M., Dr. Thursfield: The Graver Forms of Anæmia.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION.
WEDNESDAY, Nov. 2nd.—3.30 P.M. (at the Wellcome Bureau of Scientific Research, Endsleigh-gardens, W.C.), Dr. S. H. Daukes: Lecture-Demonstration on Blood Diseases.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester-square, W.C.
TUESDAY, Nov. 1st.—5 P.M., Dr. Knowsley Sibley: Principles of Treatment. Local.
THURSDAY.—5 P.M., Dr. A. M. H. Gray: Streptococcal Infections.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell-square, W.C.
WEDNESDAY, Nov. 2nd.—4 P.M., Sir H. Gauvain: Tuberculosis as a Problem of Childhood.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.
TUESDAY, Nov. 1st.—4 P.M., Prof. D. P. D. Wilkie: Gall-Bladder Disease and Gall-Stones. Discussion to be opened by Dr. James Orr.

PEOPLE'S LEAGUE OF HEALTH.
THURSDAY, Nov. 3rd.—6 P.M. (at 11, Chandos-street, Cavendish-square, W.), Dr. J. Sim Wallace: Teeth.

ANCOATS HOSPITAL (Mill-street, Manchester) POST-GRADUATE LECTURES.
THURSDAY, Nov. 3rd.—4.15 P.M. (tea at 3.45 P.M.), Dr. Kietz: Diarrhœa.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE COURSE.
FRIDAY, Nov. 4th.—4.15 P.M., Dr. A. D. Macdonald: Shock.

UNIVERSITY OF SHEFFIELD POST-GRADUATE CLINICS.
FRIDAY, Nov. 4th.—3.30 P.M., Dr. Naish: Clinical Cases.

ST. MARY'S HOSPITAL, Whitworth-street, Manchester.
TUESDAY, Nov. 1st.—4.15 P.M. (tea 3.45 P.M.), Dr. H. C. Cameron: Lloyd Roberts Memorial Lecture: The Child in General Practice. A Study Both in Temperament and Disease.

Appointments.

COOKE, R. HUNT, M.D., M.R.C.P. Lond., has been appointed Honorary Anæsthetist, Hospital for Epilepsy and Paralysis, Maida Vale.

LUMB, N. P. L., M.B. Lond., F.R.C.S. Eng., one of the Medical Referees under the Workmen's Compensation Act, for the Districts of the Bishop's Waltham; Petersfield; Portsmouth; and Newport and Ryde County Courts.

MAINGOT, RODNEY, F.R.C.S. Eng., Visiting Consulting Surgeon, Victoria Hospital, Swindon.

STOESSIGER, HILDA N., M.D., M.R.C.P., Honorary Medical Registrar, Victoria Hospital for Children, Tite-street, Chelsea.

Certifying Surgeons under the Factory and Workshop Acts: JAMES, G., L.R.C.P. Lond., M.R.C.S. (Llanelly District of the County of Carmarthen); YOUNG, J. M., M.B., Ch.B. Edin. (Cardenden District of the County of Fife).

Manchester Royal Infirmary: SMILEY, A. G., M.B., Ch.B. Manch., Junior Assistant Resident House Surgeon (central branch) JONES, G. W., M.B., Ch.B. Manch., Resident House Surgeon to the Special Departments; REGAN, N., M.B., Ch.B. Manch., and ARNING, D., M.B., Ch.B. Manch., Clinical Assistants, Medical Out-patient Department; EDWARDS, M. E., M.B., Ch.B. Manch., and BRADLEY, D. M., M.B., Ch.B. Manch., Clinical Assistants, Surgical Out-patient Department; ELLIS, R., M.B., Ch.B. Man., Cardiological Registrar; ASHWORTH, H. K., M.B., Ch.B. Manch., Junior Anæsthetist.

Westminster Hospital: BALL, W. A., L.R.C.P. Lond., M.R.C.S., COWLE, G. H., L.R.C.P. Lond., M.R.C.S., House Physicians; OLSSON, G. K., L.R.C.P. Lond., M.R.C.S., House Surgeon; SCOTT-EASTON, W. H., L.R.C.P. Lond., M.R.C.S., Resident Obstetric Assistant; CUTTING, P. E. J., L.R.C.P. Lond., M.R.C.S., Resident Medical Officer.

Vacancies.

For further information refer to the advertisement columns.

Birmingham, Witton Babies Hospital.—Res. M.O. £150.

Bolingbroke Hospital, Wandsworth Common, S.W.—H.P. At rate of £120.

Bournemouth County Borough.—M.O.H. and Sch. M.O. £1000.
Burton-on-Trent, Bretby Hall Orthopædic Hospital.—Res. M.O. £450.
Buxton, Devonshire Hospital.—Bacteriologist. £400.
Cairo, Egypt, Girl's Schools under the Ministry of Education.—Asst. Med. Inspector. L.E.480.
Canterbury, Borough Mental Hospital.—Asst. M.O. £350.
Cardiff, Glan Ely Tuberculosis Hospital, Fairwater.—Jun. Asst. M.O. At rate of £200.
Cardiff University College of South Wales and Monmouthshire.—Professor of Pathology and Bacteriology. £1500.
Central London Ophthalmic Hospital, Judd-street, W.C.—Asst. Surg.
Central London Throat, Nose, and Ear Hospital.—Second Res. H.S. At rate of £75.
Cheshire County Council.—Dist. Tub. O. £750.
Chester Royal Infirmary.—Third H.S. £150.
Croydon County Borough.—M.O.H. £1300.
Dumfries, Crichton Royal Mental Hospital.—Clin. Pathologist. £400.
Ealing Borough.—Asst. M.O.H. £600.
Eastern Dispensary, Leman-street, E.—Phys.
Elham Union.—M.O., &c. About £280 with fees.
Evelina Hospital for Children, Southwark, S.E.—Phys.
Hampstead General and North-West London Hospital, Haverstock-hill, N.W.—H.S. At rate of £100.
Hospital of St. John and St. Elizabeth, 40, Grove End-road, N.W. Asst. S.
Leeds, Tuberculosis Sanatorium, Killingbeck.—Asst. Res. M.O. £250.
Lewisham, Metropolitan Borough of.—M.O.H. £1100.
London Hospital, E.—First Asst. and Reg. to one of the five Med. Firms. First Asst. and Reg. to one of the five Surg. Firms. Salary in each case £300.
Longton Hospital, Longton, Staffs.—H.S. £120.
Malayan Medical Service.—Medical Inspectors of Schools. £700.
Manchester, Victoria Memorial Jewish Hospital, Cheetham.—Jun. H.S. At rate of £125.
Newark Hospital and Dispensary.—Res. H.S. At rate of £150.
Norwich, Norfolk and Norwich Hospital.—H.S. £120.
Plymouth, South Devon and East Cornwall Hospital.—Cas. H.S. At rate of £50.
Royal Northern Hospital, Holloway, N.—Asst. Radiologist. £140.
St. Bartholomew's Medical College.—Demonstratorship of Physiology.
Sheffield Royal Infirmary.—Hon. Asst. Surg. in Ear, Nose and Throat Dept.
Swansea Hospital.—H.S. to Ophth. and Aural Depts. £150–£200
University College Hospital, Gower-street, W.C.—Asst. Radiologist. £200.
West Middlesex Hospital, Isleworth.—Asst. to Med. Supt. £250.
Willesden, General Hospital, Harlesden-road, N.W.—P. in charge of Dept. for Dis. of Skin.

The Chief Inspector of Factories, Home Office, London, S.W., announces a vacant appointment for a Certifying Factory Surgeon at Deal (Kent).

Births, Marriages, and Deaths.

BIRTHS.

BATES.—On Oct. 15th, at Thorne House, St. Albans, the wife of Dr. Kenneth Bates, of a daughter.
BRADLEY.—On Oct. 20th, the wife of Dr. W. H. Bradley, Stratton-on-the-Fosse, of a son.
BURRELL.—On Oct. 19th, at Melville-street, Ryde, I.W., the wife of A. Ambrose Burrell, M.B., of a daughter.
KEYNES.—On Oct. 19th, the wife of Geoffrey Keynes, F.R.C.S., of Boundary-road, N.W., and Park-square West, N.W., of a son.
THOMSON.—On Oct. 16th, at Musgrave Hall, the wife of Dr. Hugh Thomson, of a son.

MARRIAGES.

CORMACK—LIDDLE.—On Oct. 18th, at St. Columba's, Pont-street, London, John Godfrey Cormack, M.B., son of Mr. John Cormack, Publisher, Edinburgh, to Eleanor Margaret, only daughter of Mr. A. Liddle, Penrith.
HORTON—EADS.—On Oct. 15th, at Holy Trinity, Hazlemere, Bucks, James Ernest Horton, L.D.S.R.C.S. Eng., to Dorothy Margaret, elder daughter of Mr. W. J. R. Eads, of Luton.

DEATHS.

ADAMS.—On Oct. 16th, aged 40 years, David Rutherford Adams, M.D. Glasg., of Linden Lodge, Torquay.
BEARN.—On Oct. 18th, Andrew Russell Bearn, M.D., F.R.C.S., in his 41st year.
LEESON.—On Oct. 23rd, at Clifden House, Twickenham, John Rudd Leeson, M.D., J.P., F.L.S., F.R.A.S., Mayor of Twickenham, in his 74th year.
MUAT.—At a nursing home, Glasgow, on Oct. 19th, 1927, William McNiven Muat, C.B.E., M.B., C.M., of 14, Hamilton Park-terrace, Glasgow, late Senior Medical Officer, Wei-hai-wei, North China, beloved husband of Elsie Hurst. No flowers by request.
PAGET.—On Oct. 17th, after an operation, Peter Paget, Colonel A.M.S., T.A., T.D., of Gloucester-terrace, W., aged 62.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Comments, and Abstracts.

CRICKET AND ITS RELATION TO THE DURATION OF LIFE.

BY A. BRADFORD HILL, PH.D.

(*From the National Institute for Medical Research, London.*)

THERE is a common belief that first-class athletes, in spite of their physique, are not "good lives"; that they tend to exhaust themselves by the physical efforts they make and to die relatively young either from a "weakened heart" or from phthisis. Yet, on the other hand, such a class must form an extremely "select" population, selected for physical stamina and powers of endurance. For this reason the obvious expectation would be that they were "lives" *above* the average. The explanation of the apparent paradox probably lies in the emphasis that is placed by the mind upon the tragedy of early death. The perspective is wrong. The exceptions are observed and remembered; they are not related to the general rule. Or, again, the strain which first-class athletes undergo is observed, but it is considered in relation to *average* physique and not in relation, as it should be, to the exceptional physique these persons possess.

Occasionally data exist which will allow a scientific analysis to be made in support or denial of general belief. For instance, in the case of first-class cricketers "Wisden's Cricketers' Almanac" devotes one section to biographical details. Information—i.e., year of birth and year of death—can be extracted which will enable us to see whether this class of athletes actually is short-lived or not.

For the purposes of this study the 1926 issue was used and account was taken of all cricketers (of British nationality) who were born not later than 1888 and had played for any English county or for either Oxford or Cambridge University. The end of the experience was taken as 1913 so as to exclude the war years, and all those who were still alive at the end of that year were then treated as "exits," by the ordinary life-table method. The number born before the nineteenth century was too small to be of service, and excluding these there remained 3424 first-class cricketers born between 1800 and 1888. These were divided into two sections: (1) those born between 1800 and 1849, and (2) those born between 1850 and 1888. A life-table was drawn up for each group. The former can be compared with English Life-Table No. 4, which is based upon the mortality of 1871–80, or, in other words, since the rates of mortality were calculated from age 25 to age 80, upon births between 1791 and 1855. The latter group of cricketers—i.e., births between 1850 and 1888—coincides closely with English Life-Table No. 8, which is based upon the mortality of 1910–12, or, since the rates of mortality were calculated from age 25 to age 60, upon births between 1850 and 1887. These comparisons are set out in Table I.

TABLE I.—*Comparison of Cricketers with General Male Population.*

—	Cricketers born between 1800 and 1849.		English Life Table No. 4. Males. Births between 1791 and 1855.	Cricketers born between 1850 and 1888.		English Life Table No. 8. Males. Births between 1850 and 1887.
Age.	Exposed to risk at each age.	Number who die within 10 years out of 1000 commencing at each age.		Exposed to risk at each age.	Number who die within 10 years out of 1000 commencing at each age.	
25	1287	45*	89	2137	35	47
30	1265	70	106	1867	46	60
35	1229	92	128	1565	61	78
40	1176	97	153	1252	83	102
45	1116	107	187	978	117	138
50	1062	146	235	684	122	190
55	997	186	300	417	—	—
60	908	237	392	180	—	—
65	743	343	512	—	—	—
70	470	451	652	—	—	—

* The table reads: Out of 1000 beginning at age 25 of cricketers born between 1800 and 1849, 45 die before reaching age 35, while 89 males E. L. T. No. 4, 35 cricketers born between 1850 and 1888, and 47 males E. L. T. No. 8 die within that 10 years. Similarly, out of 1000 beginning at age 30 the deaths between ages 30 and 40 number 70, 106, 46, and 60; and of 1000 beginning at age 35, 92, 128, 61, and 78 die before reaching age 45.

The comparisons show that cricketers form by no means a short-lived population, but on the contrary hold a substantial advantage at every age in both groups. This advantage is undoubtedly somewhat exaggerated for two reasons: (1) it is assumed that all cricketers are "exposed" from age 25, while in actual fact probably some do not "enter exposure" in first-class cricket till a later age; (2) a certain number of deaths very probably escape notice and are not recorded in the almanac. This would affect mainly the later age-groups, when after retirement from "active life" the cricketer may "drop into the grave, unpitied and unknown." Neither source of fallacy is, however, at all likely to be on a sufficient scale to alter the conclusion that cricketers are long-lived.

Gentlemen v. *Players.*

In Table II. comparison is made between "players" and "gentlemen," and it will be observed, except at age 25 when the difference is slightly in favour of the professionals, that the amateurs hold the advantage in longevity throughout.

TABLE II.—*Comparison of Amateurs and Professionals.*

Age.	Amateurs born between 1800 and 1874.		Professionals born between 1800 and 1874.	
	Exposed to risk at each age.	Number who die within 10 years out of 1000 commencing at each age.	Exposed to risk at each age.	Number who die within 10 years out of 1000 commencing at each age.
25	1705	40	993	36
30	1676	52	980	65
35	1637	63	957	99
40	1539	74	890	118
45	1328	99	766	130
50	1122	139	625	146

The suggestion is that the amateur not only shares with the professional the advantage of physical selection, but that he has in addition the benefit, as regards length of life, of social selection. His life, in general, runs in an easier groove. Glancing through the records given in "Wisden's Almanac" it is not difficult to see why, in this case, a superficial inspection should give rise to a belief in an unduly heavy mortality at the younger ages. The biographies relate to persons born during, roughly, the nineteenth century and (as shown in Table I.) nearly two-thirds of these births fall after 1850. Obviously, therefore, the deaths recorded must relate largely to the younger age-groups, since the greater number of the exposed to risk are still alive in 1913, the closing year of this study. In other words, relatively early in life they become "exits" and have not before 1913 had the chance of being recorded as deaths in the more advanced age-groups. Table I. shows clearly the process. Out of 2137 cricketers born between 1850 and 1888 and exposed at age 25, under half remain 20 years later and by age 60 all but 180 have gone. Their ranks are depleted by "exits" in the relatively early age-groups. The eye grasps the continual registration of deaths at the younger ages but fails to assess the effect of the "exits" in limiting the exposure in the more advanced years of life.

Summary.

1. There is a common belief that first-class athletes tend to die relatively young.

2. An examination of the available data shows that such a belief is not true for first-class cricketers, who are long-lived in comparison with the general population.

HOMICIDAL IMPULSE IN VERSE.

IN "Nan of Aviemore: A Highland Tragedy" (London: Erskine Macdonald, Ltd., 1927, pp. 67), Dr. A. Niven Robertson tells how Ian Grant left his beloved, Nan of Ruachar, to go to sea. His ship was wrecked, and he was struck on the head by a madman, his companion on a raft. Deprived of his reason, he wanders back to Ruachar in search of Nan, who has remained faithful to him although courted by a young doctor. Ian comes on the pair and shoots his supposed rival dead, but the shot also kills his sweetheart, and he dies in despair. The story is told in lively quatrains and the tragic lovers move to their fate against an ever-changing background of Highland scenery and life. The theme is the complete alteration of a man's character by an accidental blow, a natural catastrophe which, though inevitable, yet wrecks three lives, and every psychiatrist will be able to recall "surgical tragedies" of the same kind. The poem is full of the atmosphere, terrifying in its majestic loneliness and appealing in its primitive beauty, of the hills and scattered villages where its countrymen pursue their grim, unceasing struggle with Nature.

FRAUDS ON NURSING HOMES.

SENTENCE of nine months imprisonment passed at the Marylebone police-court recently will protect the matrons of nursing homes from a nuisance to which they have lately been exposed. The accused, a man of 37, was stated to have been liberated from prison on Sept. 14th and to have gone to a nursing home under the influence of drink. He said he was a man of means and wanted the best attention for a fortnight in order to get the drink out of his system. He left next morning for the alleged purpose of obtaining money at his bank and never returned. He appears to have incurred a debt of £23 to a cabman who drove him about London. He was eventually driven to a nursing home in Bayswater, where he made similar representations. Fortunately the matron happened to become aware of what had occurred at the previous nursing home, and she communicated with the police, who arrested the accused in bed. The actual charge was that of obtaining credit to the extent of eight guineas at the two nursing homes by fraud.

The accused, in a long address to the magistrate, stated that he possessed a Jekyll-Hyde personality. When he was in a normal condition, he said, he loathed and despised himself for the disreputable things he did when under the influence of alcohol and drugs. The magistrate briefly observed that it was a clever fraud and a mean trick, and passed sentence as already mentioned. The allegation of dual personality was not further discussed, but was probably accepted as the familiar attitude of Philip sober towards Philip drunk. A detective-sergeant said that the accused had six previous convictions for fraud in the last three years.

A GOOD INHALANT.

WE have received from the Pineoleum Co. (New York City) a simple and efficient type of nebuliser, intended for use in the catarrhal conditions of nose and throat which arise so frequently at this time of year. The composition of the Pineoleum brand inhalant supplied with the nebuliser is stated in the literature accompanying the apparatus, where it is claimed that careful and stringent standardisation, both chemical and bacteriological, has ensured an absolutely uniform product. The standardisation has been checked by the Clinical Research Association, whose certificates show a definite inhibitory action of the inhalant on certain organisms associated with respiratory catarrh. The present type of nebuliser has been improved by making all the metal parts which are liable to contamination readily sterilisable by boiling. The nebuliser delivers a copious and very fine spray of even distribution. The British agents and distributors are Messrs. Brooks and Warburton (American Drug Supply Co.), Ltd., 40, Lexington-street, London, W. 1.

TOXIC RUBBER.

Mr. W. E. J. G. de Bran writes to inquire whether medical practitioners have had brought to their notice cases of sudden inflammation of the eyes among children for which no reason can be found. The smarting and suffusion subside rapidly, the copious crying of smaller children seeming to be the best remedy for them. Personal experience of his own leads him to suggest that such children will be found to have recently engaged in games with a hard rubber ball whose surface, probably through the medium of their fingers, has come in contact with the eyes. He incurred just such a temporary inflammation himself after screwing a miniature rubber tyre called a "Meccano" into his eye, as a monocle, for the amusement of a small boy. Possibly some of our readers may have some familiarity with the condition.

The toxic qualities of some rubber have been noticed by many observers. In a letter published in THE LANCET over 20 years ago (v. LANCET, June 10th, 1905) Dr. F. A. Pond drew attention to the presence of sulphide of antimony as a constituent of red rubber and suggested the possible connexion of this with cases of intestinal disorder which had come under his notice. Analyses made by THE LANCET and in other laboratories had already demonstrated the fact 20 years previously that rubber bands, washers, and tubing contained this poisonous salt, but apparently in negligible quantity, having regard to the length of time over which disintegration of the rubber was usually spread.

RIFLE SHOOTING AS A PASTIME.

THE Society of Miniature Rifle Clubs has issued a statement drawing attention to the advantages of rifle shooting as a pastime for medical men. Dr. C. Heygate Vernon, the King's Prize winner at Bisley, has, it is pointed out, set an example which is being followed by other members of the profession, not only for the pleasure gained but also as a means of training the eye to greater skill and judgment. Among doctors who have won distinction as marksmen are mentioned Dr. P. G. Harvey, Dr. F. H. Kelly, and Dr. W. J. Bethune. It is suggested that any of our readers who are interested should apply to the Secretary of the S.M.R.C. at 15, Arundel-street, Strand, London, for further information.